

INTEGRATED ENERGY POLICY REPORT COMMITTEE WORKSHOP  
BEFORE THE  
CALIFORNIA ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

In the Matter of: )  
 )  
Informational Proceeding and ) Docket No.  
Preparation of the 2004 Integrated ) 03-IEP-01  
Energy Policy Report (IEPR) Update)  
 )  
2004 Transmission Update )  
\_\_\_\_\_)

CALIFORNIA ENERGY COMMISSION  
1516 NINTH STREET  
HEARING ROOM A  
SACRAMENTO, CALIFORNIA

MONDAY, MAY 10, 2004

10:01 A.M.

Reported by:  
Peter Petty  
Contract No. 150-01-005

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

COMMISSIONERS PRESENT

John Geesman, Presiding Member

ADVISORS PRESENT

Melissa Jones

Darcie Houck

STAFF and CONSULTANTS PRESENT

Kristy Chew

Don Kondoleon

Eileen Allen

Judy Grau

ALSO PRESENT

Joe Eto

Consortium of Electric Reliability Technology  
Solutions; Lawrence Berkeley National Laboratory

John White

Center for Energy Efficiency and Renewable  
Technologies

Jonathan Weisgall

Cal Energy

Patricia Arons

Southern California Edison Company

Robert Sparks

California Independent System Operator

Jon Fischer

PPM Energy

Hal Romanowitz

Oak Creek Energy Systems

ALSO PRESENT

Juan C. Sandoval  
Imperial Irrigation District

David Korinek  
San Diego Gas and Electric Company  
Semptra Energy

Dale Stevens  
Cal Energy

Bill Myers  
The Valley Group, Inc.

Jane Hughes Turnbull, Principal  
Peninsula Energy Partners  
League of Women Voters

Anthony Parisi  
Naval Air Systems Command Weapons Division

Mark Ward  
Los Angeles Department of Water and Power

## I N D E X

	Page
Proceedings	1
Opening Remarks	1
Presiding Member Geesman	1
K. Chew, Project Manager	4
D. Kondoleon, Transmission Program Manager	6
Introductions	1,5
Renewable Developments and Transmission Constraints in Southern California	6
Policy Overview	6
J. White, CEERT	6
J. Weisgall, Cal Energy	14
Tehachapi	23
P. Arons, SCE	23
R. Sparks, Cal-ISO	48
J. Fischer, PPM Energy	58
H. Romanowitz, Oak Creek Energy Systems	70
Afternoon Session	96
Salton Sea	97
J. Sandoval, IID	97
D. Korinek, SDG&E	107
D. Stevens, Cal Energy	117
Panel Discussion - What should be the focus of the 2004 IEPR update to facilitate access to renewable resources? What should the 2005 IEPR focus be?	124
Moderator: J. Eto, CERTS; LBNL	124

## I N D E X

	Page
Panel Discussion - continued	
Panelists	
B. Myers, The Valley Group, Inc.	125
J. Turnbull, LWV	127
A. Parisi, NASC Weapons Division	130
J. White, CEERT	--
J. Weisgall, Cal Energy	--
M. Ward, LADWP	134
P. Arons, SCE	137
R. Sparks, Cal-ISO	140
J. Fischer, PPM Energy	141
H. Romanowitz, Oak Creek Energy Systems	142
J. Sandoval, IID	145
D. Korinek, SDG&E	146
D. Stevens, Cal Energy	149
Southern California Transmission Corridor Study Proposal	152
K. Chew, CEC	152
E. Allen, CEC	159
Development of a Transmission Vision for California	165
J. Grau, CEC	165
Schedule	173
Closing Remarks	174
Adjournment	175
Certificate of Reporter	176

## P R O C E E D I N G S

10:01 a.m.

PRESIDING MEMBER GEESMAN: I'm John

Geesman, the Commission's Presiding Member of its Integrated Energy Policy Report Committee. Seated to my right is my Staff Advisor, Melissa Jones. Commissioner Boyd, who is the Associate Member of the Committee will be unable to join us today. But to my left is Darcie Houck, his Staff Advisor.

I want to recap where we are, so bear with me. This will probably take a couple of minutes to do. This is the third event of the 2004 transmission update process. The purpose of the effort in 2004 is to take action to implement the 2003 Integrated Energy Policy Report goals.

The 2003 report emphasized the importance of modernizing and upgrading the bulk transmission grid and identified both planning and permitting actions the State of California should take to optimize the system in a cost effective, environmentally sensitive manner.

The first event was the November 6, 2003 workshop to identify key transmission planning issues, including how best to capture the strategic benefits of transmission assets.

1           The second event was the Committee's  
2   April 5th workshop which had three objectives.  
3   One, to discuss long-range transmission system  
4   interconnection needs under various scenarios.  
5   Two, to begin stakeholder-driven development of a  
6   state long-range transmission system vision. And,  
7   three, to understand the transmission problems of  
8   immediate concern, the critical short-range  
9   projects to address these concerns, and the  
10   consequences of delays in bringing them online.

11           Today's workshop is the third event in  
12   the transmission update process. The goals for  
13   the workshop are one, to examine the general topic  
14   of renewable resource development and transmission  
15   constraints in southern California. And the  
16   particular question of how wind resources in the  
17   Tehachapi region and geothermal resources in the  
18   Salton Sea region should be interconnected to the  
19   grid.

20           Two, to describe the Commission Staff's  
21   proposal for a southern California transmission  
22   corridor study; and to seek feedback from  
23   interested parties on its contents, value and  
24   timing.

25           And three, to continue the discussion of

1 the development of a long-term vision for  
2 California's transmission system.

3 We currently plan one more workshop set  
4 for June 14th which is expected to cover the  
5 following topics. One, describe how alternatives  
6 to transmission projects are currently addressed  
7 in planning and permitting processes. And how  
8 best to analyze alternatives in the future.

9 Two, discuss the results of the CEERT  
10 study on the quantification of strategic benefits  
11 in transmission assets.

12 Three, continue the development of the  
13 transmission corridor study.

14 And, four, continue the development of  
15 the transmission vision.

16 Staff will then produce a transmission  
17 white paper in late July. The Committee will hold  
18 workshops and/or hearings on the white paper in  
19 early to mid August. The Committee will publish  
20 its Committee report in mid September, and make  
21 its recommendations to the full Commission, which  
22 anticipates taking action by November 1st.

23 Okay, thank you for bearing with me in  
24 that somewhat long-winded introduction. Kristy,  
25 why don't you start.



1 MS. CHEW: Okay. Hi, good morning, my  
2 name is Kristy Chew. I'm a Project Manager of the  
3 transmission portion of the 2004 IEPR update. I'd  
4 like to take care of some housekeeping items this  
5 morning and introduce some staff that you see here  
6 today.

7 For those of you that are not familiar  
8 with this room the bathrooms are directly behind  
9 that opaque wall. And there's a water fountain  
10 there, as well. And there's a snack shop for  
11 drinks and snacks on the second floor.

12 And the final workshop agenda and  
13 handouts for all the presentations for this  
14 morning are copied at the back table. Feel free  
15 to pick up a copy. There will be a different set  
16 of handouts there in the afternoon, so when you  
17 come back from lunch, please go ahead and look at  
18 the table again; there will be some new handouts  
19 there, and the morning ones will be set aside.

20 There's also a workshop sign-in sheet  
21 there. Please sign in, let us know who attended  
22 this morning. And you can also let us know if  
23 you'd like to be notified for future updates if  
24 you're not already on our mailing list.

25 This workshop is being transcribed and

1 to help us do that today is our court reporter,  
2 Peter, over there in the pink shirt. And he said  
3 hi. And he's recording the meeting. To make sure  
4 that we get everybody's comments on the record,  
5 we'd like to request that everybody please use the  
6 microphones; introduce yourselves; and present  
7 your business card to the court reporter so that  
8 he can get your name accurately into the record.

9 If there's any time you cannot hear  
10 what's being said, please speak up. Because if  
11 you can't hear it that probably means the court  
12 reporter cannot hear it, either, so it's not being  
13 picked up. So, please raise your hand and let the  
14 speaker know that you'd like them to speak up a  
15 little bit.

16 I'd like to also introduce some other  
17 staff here today. Sandra Fromm is here, and she's  
18 managing the 2004 and 2005 IEPR update and  
19 proceeding. From engineering staff there is Bob  
20 Strand, Judy Grau and Don Kondoleon. And from our  
21 renewables group I see that Drake Johnson is here.  
22 Hi, Drake. I don't know if you have any other  
23 renewables folks with you, but I can't see them.  
24 And I think that covers just about all the  
25 housekeeping items.

1 Right now I'm going to turn the workshop  
2 over to Don and he's going to introduce this  
3 morning's presenters. Thank you.

4 MR. KONDOLEON: Good morning. I'm Don  
5 Kondoleon. I am the Commission's Transmission  
6 Program Manager. The morning session is broken  
7 down into two distinct areas. First, we'll have a  
8 number of presentations. Those are broken down  
9 into a policy overview section, a section on  
10 Tehachapi, and then another section on the Salton  
11 Sea.

12 And then following that we'll take a  
13 brief intermission while we set up for the  
14 roundtable panel discussion.

15 I want to personally thank all of the  
16 presenters. I've had the opportunity to speak to  
17 each of you, and again, want to thank you for  
18 participating in this workshop that we're having  
19 today.

20 To start things off I'd like to have  
21 John White from the Center for Energy Efficiency  
22 and Renewable Technologies come forward and start  
23 things off for today. Thank you, John.

24 MR. WHITE: We, as an organization, are  
25 a collaborative of environmental public interest

1 groups and renewable technology developers, as  
2 well as efficiency and ultraclean DG folks. And  
3 we spend a lot of our time working alongside the  
4 CEC.

5 And first of all, I want to thank the  
6 CEC for all of its efforts to make the renewable  
7 portfolio standard be successful. I think the  
8 Commission's performance, its collaboration with  
9 the PUC, its ability to deliver work product on  
10 time has been invaluable.

11 And we're really looking to you, more  
12 than anyone, to help us move this all to the next  
13 level. Because to make the RPS ultimately  
14 successful beyond the goal of initial procurement,  
15 and solicitation, is to integrate renewable  
16 transmission planning with procurement, and to  
17 look on a statewide basis at what it's going to  
18 take to achieve the RPS and not just a service  
19 territory-by-service territory approach.

20 The thing I think we're going to need as  
21 much from this Commission as anything is that  
22 continued role of integrating with the other  
23 parties and the stakeholders. The utilities have  
24 much to say and much to offer because it's their  
25 lines that we're talking about.

1           We've also got to recognize the very  
2   important role of the municipal utilities who  
3   don't have a welcome-home, at least in their mind,  
4   at the Public Utilities Commission, plus the  
5   interactions with the ISO have also been limited.  
6   So this forum becomes vital for the necessary  
7   engagement of the municipal utilities. And I'm  
8   grateful that they are here, as well.

9           I think the other thing is that our  
10   focus is right in this workshop, that the two most  
11   significant opportunities and challenges for  
12   advancing renewable resource procurement in  
13   California with regard to the transmission issue  
14   are Tehachapi and Salton Sea.

15          And in both cases there are both  
16   opportunities and challenges relating to the  
17   institutional roles and responsibilities. Just in  
18   the nature of who all is there, we have  
19   connections potentially that can be made out of  
20   Tehachapi to the north as well as to the south.  
21   And that involve not just Southern California  
22   Edison, although they're very important, but also  
23   the Los Angeles Department of Water and Power, and  
24   ultimately PG&E in the form of a connection to  
25   Path 26.

1           That's an enormous flexibility that that  
2       resource could provide, but it's going to require  
3       a different kind of planning than we've been used  
4       to. It can't be reactive. It can't be just what  
5       it takes to move power from Tehachapi to downtown  
6       Los Angeles on an isolated view. It's got to be  
7       integrated. And that's where we're grateful for  
8       the organization.

9           Salton Sea is important, like Tehachapi,  
10      because of the accessibility of significant  
11      resources of a nature that can help us displace  
12      our dependence on natural gas and coal resources.

13           While the Tehachapi resource is wind and  
14      very very cost effective, it is still wind and has  
15      different aspects to it that need to be  
16      considered. The geothermal resource, however, is  
17      really our baseload renewable that gives us an  
18      enormous opportunity, particularly given the size  
19      of the resource, to make a significant amount of  
20      instate investment in a renewable clean energy  
21      resource that can enable us to be less dependent  
22      on coal as we proceed with the shutdown of the  
23      Mojave plant and begin to worry about our growing  
24      dependence on imports, both of LNG and imported  
25      fossil fuels.

1           So, those two resources, and those two  
2 regions represent a logical focus. I would like  
3 to mention, though, that while we're doing this  
4 work there's other work going on in the other  
5 western states. Governor Schwarzenegger joined  
6 with Governor Richardson in announcing calls for a  
7 clean energy plan for the west that would  
8 significantly influence the shape of future  
9 resources delivered to California.

10           The Western Governors Association has  
11 already been partners with this Commission on the  
12 development of the REGIS tracking system for  
13 renewable compliance and to enable a truly  
14 westwide RPS to someday take shape. And so our  
15 relationships on transmission planning for  
16 renewables, with the rest of the west, needs to  
17 also be something we get to. It may not be our  
18 focus in the near term, but we need to be aware of  
19 the segue process going on and the work of our  
20 colleagues in the Northwest and the Intermountain  
21 West. And we're appreciative of the Commission's  
22 ability to, I think, again, be a vehicle for  
23 engagement by helping to bring your colleagues at  
24 the PUC and the ISO to the table. And also find a  
25 home for the munis.

1           So, we're grateful for the opportunity  
2   to participate and look forward to working with  
3   you and learning how we can take the next steps in  
4   meeting the goals. The Governor has laid out an  
5   interest in acceleration of the RPS and in  
6   expanding the RPS beyond 20 percent. That goal is  
7   going to depend on the work we do here today if  
8   it's going to be successful. So I think it's time  
9   to get started. Thank you.

10           PRESIDING MEMBER GEESMAN: John, thank  
11   you for your remarks. We hear I think quite  
12   consistently, particularly from those outside the  
13   state, how difficult it is to environmentally  
14   permit infrastructure in California. A lot of the  
15   organizations on your Board have really been  
16   dominant movers of this state's emphasis on  
17   renewable energy. And I certainly know from a  
18   long number of years ago your personal involvement  
19   in that.

20           Do you have any sense as to how the  
21   licensing process for new transmission lines is  
22   likely to be perceived by the environmental  
23   community, particularly those transmission lines  
24   that seem to be necessary prerequisites to  
25   accomplishing our renewable goals?



1           MR. WHITE: Well, I think there is going  
2     to have to be issues. I think one of the things  
3     that, first of all, we've learned from our  
4     experience on transmission is don't underestimate  
5     the impact and the concerns of the people in the  
6     communities through which the lines go.

7           You know, the San Diego experience with  
8     Valley Rainbow was instructive, because they  
9     basically took a line that was mapped out years  
10    ago for Sun Desert and said, well, we got the  
11    route, let's just go through. Well, in the  
12    meantime a quarter-million people have moved into  
13    Temecula Valley and the tribes had become  
14    sovereign, and that wasn't going to happen.

15          So I think always you've got to  
16    anticipate and look at the problems. The L.A.  
17    Department of Water and Power and the folks trying  
18    to do wind development in and around Edwards Air  
19    Force Base are going to have to -- we have to look  
20    at that issue in particular, I think, in  
21    Tehachapi. The relationship to the Air Force.

22          Tehachapi and Salton Sea aren't quite  
23    the same as running a line over the Sierra in  
24    terms of the potential opposition, but generally I  
25    think the experience we've had, both with siting

1       renewables, as well as with power plant siting in  
2       this Commission, you know, there is a way to get  
3       things done if you do it right.

4                I mean that's not to say everybody's  
5       going to be happy, but there's certainly -- I was  
6       at a conference the other day that talked about  
7       Highlight magazine, and talked about two different  
8       characters in the magazine. And, you know, one of  
9       the characters is Gallant, and he sort of does the  
10      right thing, is thoughtful, listens to people and  
11      in characterizing a developer of a renewable  
12      project, Gallant was thoughtful and considerate  
13      and listened to people, and talked to them early  
14      and did all the right things.

15               And then there was Goofus, okay, and  
16      Goofus sort of did everything wrong, you know.  
17      And there is a Goofus way to do transmission. And  
18      I think there's a Gallant way. And one of the  
19      ways is to involved the affected parties; and also  
20      to be sure you're not building more than you need.  
21      I think there is a sense to which transmission has  
22      always been a tool of market power, to protect  
23      oneself or to inflict it on other parties.

24               And so, you know, the need assessment  
25      that this Commission has traditionally done; the

1 alternative analysis that is required under CEQA.  
2 I think those are the tools that can best help us  
3 to be gallant in our work rather than goofus.

4 PRESIDING MEMBER GEESMAN: Thank you.

5 MR. KONDOLEON: Thank you, John. Next  
6 presentation will be from Jonathan Weisgall of Cal  
7 Energy.

8 MR. WEISGALL: I'm going to talk from  
9 here if that's okay. I've got some slides that  
10 we'll get started on if it works.

11 Thank you very much; I send what John  
12 White said. I appreciate your holding this  
13 hearing. I think it is most important. I want to  
14 just quickly talk about our company, but then go  
15 into some policy issues.

16 Cal Energy is part of Mid American  
17 Energy Holdings Company. We've got six different  
18 platforms; we've got a utility in Iowa; we have a  
19 distribution company in the U.K. Cal Energy is  
20 how our company originally started. In fact, we  
21 began in 1980 with one contract with the Navy up  
22 at Koso in geothermal. Today we're a \$17 billion  
23 company. But the Cal Energy, the geothermal part,  
24 remains a very important part of their operations.

25 And under the Cal Energy platform we've

1       also got cogen plants; and we do a huge amount of  
2       work in the Philippines, both geothermal and  
3       hydro. I'll mention parenthetically, by the way,  
4       that fully 25 percent of the electricity from the  
5       Philippines today comes from geothermal power.  
6       This is an important renewable resource. The  
7       Philippines are lacking in other resources, and  
8       largely through the efforts of President Ramos, a  
9       decision was made early on to utilize those  
10      resources.

11               We've got two natural gas pipeline  
12      companies, including Kern River, which brings a  
13      great deal of natural gas, I think about 20  
14      percent of the natural gas, into California. And  
15      then a real estate company.

16               We're headquartered in the Midwest. I  
17      walk around with a Mid American Energy card and a  
18      Cal Energy card in my pocket depending what state  
19      I'm in. We are part of Berkshire-Hathaway. I  
20      want to come back to that briefly. And you're got  
21      our website here, as well.

22               Being part of Berkshire-Hathaway and  
23      being in what some call the aura of a fellow like  
24      Warren Buffet really doesn't differ from working  
25      in any other company. Mr. Buffet made a lot of

1 money by allocating his capital wisely. We have  
2 pretty healthy internal debates in our company as  
3 to where to allocate capital. And we've got a lot  
4 of different energy platforms now to carry on that  
5 debate. Do we buy a pipeline; do we invest in the  
6 natural gas pipeline out of Alaska; do we put  
7 resources into Iowa or California.

8           You're absolutely right, permitting in  
9 California is very difficult. We currently, with  
10 number one, good market signals, number two, clear  
11 rules of the road, number three, commercial  
12 viability and number four, a certain level of  
13 political support you can proceed with developing  
14 your energy projects in virtually any state.

15           We've got the confluence of those four  
16 factors in Iowa today. So, in a small Midwestern  
17 state we are currently spending over \$1.5 billion  
18 on three separate power projects, what will be the  
19 world's largest windfarm, a coal plant and a  
20 natural gas plant. That's because those four  
21 factors of the market signals, the clear rules of  
22 the road, the commercial viability and the  
23 political support have come together.

24           In California I think we all know the  
25 advantages of renewable energy. We all learned

1 from the crisis of 2000/2001. Renewables, there's  
2 the obvious environmental benefit. But don't  
3 forget the other three. The fuel diversity; the  
4 fact these are indigenous resources, these are in  
5 under the ground in California, and above the  
6 ground in Tehachapi, which I think plays into  
7 energy security; and a major factor of price  
8 stability.

9 In that crisis, while QFs were  
10 frequently dissed by many of -- well, by the  
11 utilities in this state, during the energy crisis  
12 the fixed price contracts were well below market.  
13 A company like ours, or a wind company today can  
14 enter into a fixed price, 10-, 20-, 30-year  
15 contract because we do not have to -- we know what  
16 the cost of the fuel is going to be through  
17 construction and maintenance. The fuel is not  
18 traded on the New York Commodity Exchange. So we  
19 can enter into a fixed price contract, as we have  
20 with our new plant that I'll talk about briefly.

21 Your issue now, we've got, as John White  
22 said, it's terrific, we've got SB-1078 in place.  
23 The real question is what the heck do we do now.  
24 How do we make it happen. And I point to Nevada  
25 as an example of another state that has an RPS in

1 place where you've got the utilities today filing  
2 petitions with the Nevada PUC asking not to be  
3 penalized for failure to comply with their  
4 requirements under the RPS simply because the  
5 projects aren't there. Problems with developers  
6 and the failure of the production tax credit to  
7 pass Congress.

8 Transmission access, there is a need to  
9 eliminate barriers for entry for renewables. And  
10 certainly transmission is a major one. Obviously  
11 you can't build a renewable energy plant, whether  
12 it's wind, geothermal, biomass or solar, where you  
13 want to. You have got to go where the resource is  
14 located. And frequently that is in remote areas.

15 One of your questions on the workshop  
16 today is timetable. I think everyone in this room  
17 knows long is the answer for transmission. Longer  
18 than even trying to permit a power plant. So  
19 there's a need to move on this, and I think that  
20 the timing of your workshop and the plans to have  
21 a report, I hope, out of the Commission this fall  
22 are very -- is very valuable.

23 I don't have an answer but I will just  
24 flag the need to develop an equitable way to pay  
25 for new transmission lines. We've got a new

1 Salton Sea 6 plant coming in, in which the  
2 transmission costs are not overwhelming. Future  
3 development here, possibly in Tehachapi, may  
4 result in significant transmission costs.

5 There are constraints in the system. My  
6 colleague, Dale Stevens, will talk on the third  
7 panel about those. I'll simply leave you with the  
8 thought now that there are today stranded  
9 electrons in Mexico because of transmission  
10 constraints that exist down in Imperial.

11 How do we get out of the Salton Sea  
12 area. You can go west towards the San Diego area;  
13 northwest to the greater L.A. basin; even  
14 northeast to Nevada. They've got an RPS; that's  
15 not necessarily ideal for the State of California,  
16 but it's do-able; east to Arizona with tremendous  
17 growth. Again, not ideal for the State of  
18 California. And, of course, this planning process  
19 does involve both the IOUs and the munis. And  
20 again, kudos to this Commission for engaging in  
21 this process, because you are able to bring both  
22 of those groups together.

23 A very important point that I don't -- I  
24 mean, John, you touched on it, but I think that  
25 it's worth repeating here. This does require



1 comprehensive planning.

2 Very briefly I will just discuss what  
3 our situation is as a company, and then as I said,  
4 Dale Stevens is going to cover this in much more  
5 detail.

6 But today we've got ten geothermal  
7 plants down at the Salton Sea producing 340  
8 megawatts. Under development is Salton Sea 6.  
9 That's 185 megawatts. Again, back to your  
10 question, Commissioner Geesman, in terms of  
11 difficulties in California, this was the first  
12 geothermal plant permitted by this Commission, I  
13 want to say in more than a decade, could be even  
14 more than a decade.

15 A very lengthy process; thoroughly  
16 professional work on the part of your staff. It  
17 took a little longer than we wanted, but it  
18 worked. It was a very expensive process. We had  
19 a lot of outside issues that came in that we  
20 didn't expect, but the process worked. We got the  
21 permit. We are ready to construct. In fact,  
22 we've got a customer, we've got a permit, we've  
23 got financing. We still are working on the  
24 commercial viability of that project, which  
25 involves issues more in Washington than here.

1           Proven resources of 600 megawatts, and  
2           additional possibilities of up to 1200. So there  
3           is room for a great deal of expansion in the  
4           Salton Sea.

5           And I do want to add that there is also  
6           another, the very last line down here, there are  
7           other existing resources, about 180 megawatts,  
8           that are not ours at the Salton Sea. Those are  
9           almost all Ormat. There's Gem Resources in Heber.  
10          If you go to the website I've listed here on the  
11          slide, which is the Geothermal Energy Association,  
12          there are complete links to all of the plants in  
13          the Salton Sea area. So I don't want to leave you  
14          with the impression that we're it. But our  
15          company has most of the resources down at the  
16          Salton Sea, but not all.

17          And the map, by the way, on the right  
18          simply shows the other development. You've got  
19          the Geysers, Mono; you've got the Calpine project  
20          up in the northern part of the state. And, of  
21          course, we're down in the southern part.

22          Those concludes my prepared comments,  
23          but delighted to take any questions.

24          PRESIDING MEMBER GEESMAN: Has your  
25          company given any thought, or perhaps do you have

1 any opinion as to the availability of additional  
2 resource in the Sierra Prieto fields in Mexico?

3 MR. WEISGALL: We have. We have looked  
4 at that. It's a tremendous resource. And I think  
5 that there are some problems now in the management  
6 of that resource.

7 We have had informal discussions with  
8 the Mexican Government. It's very close; it's  
9 within, I believe, 30 to 50 miles of the border.  
10 There are -- it raises other transmission issues.

11 Again, Commissioner, the right market  
12 signals could add Sierra Prieto to the mix for  
13 California. It's a very active field. The  
14 temperatures are actually higher than some in the  
15 Salton Sea area. It's a different kind of a  
16 resource. And the Mexican authorities, just like  
17 at the Salton Sea, managing geothermal resources,  
18 believe me, it's an art as much as a science. And  
19 we have had informal discussions because it's a  
20 major resource that could provide tremendous  
21 baseload support to California.

22 And, again, all that turns on what the  
23 long-term planning is for the utilities. As John  
24 White said, with baseload geothermal, yeah, you  
25 could replace, you know, the potential here 2300

1 megawatts. You're talking four or five coal  
2 plants. Question of where the state wants to go;  
3 how far we can go with the RPS. And the whole  
4 commercial viability.

5 Thank you very much.

6 MR. KONDOLEON: Thank you, Jonathan. To  
7 initiate the discussion on Tehachapi I want to  
8 welcome Patricia Arons from the Southern  
9 California Edison Company.

10 MS. ARONS: Thank you. My name is  
11 Patricia Arons and I'm with Southern California  
12 Edison. And I have one colored picture to show  
13 you. There isn't a lot of other color in my  
14 presentation. So I figured since the wind  
15 generators and other renewables have a lot of  
16 money to work with, that their presentations would  
17 have a lot of color. So this is about it for  
18 mine. After this it's very dry.

19 (Laughter.)

20 MS. ARONS: You've asked a series of  
21 questions about Tehachapi. And what I tried to do  
22 in this presentation is go through a provide an  
23 answer to each of the questions that have been  
24 asked. And I don't really intend to focus in  
25 detail on each and every slide, but I thought it

1 might be useful to start out with a general  
2 understanding of what is the existing Tehachapi  
3 system.

4 We have basically a 66 kV network that  
5 serves both load as well as interconnecting wind  
6 generation and delivering it to the bulk grid. We  
7 have an ability to export about 310 megawatts of  
8 wind generation based on actual loading results  
9 that we have seen. And we are currently serving  
10 about 593 megawatts of customer load.

11 There's about 67 megawatts of customer  
12 load in the northern part of the system that I'm  
13 going to show you; and about 526 megawatts in the  
14 southern part of the system.

15 This is the southern part of the system  
16 what this shows you is Antelope is the square  
17 here; that designates the 230 kV connection to the  
18 bulk system. And coming out of Antelope you see a  
19 number of 66 kV lines and customer load stations.  
20 And this is in the Lancaster/Palmdale area. So  
21 we've got nearly 600 megawatts load in the  
22 southern part of the system.

23 In the northern part of the system you  
24 see a lot of wind generation. And this is about  
25 30 to 40 miles north of Antelope. And this 66 kV

1 line span the Mojave Desert from Lancaster up to  
2 the Tehachapi area. So what you see is a rather  
3 complex network of load and generation connections  
4 that have literally been developed over time.

5 The bulk of the contracts for the QFs  
6 were signed in the mid '80s, at a time when wind  
7 generation was a relatively new technology. And  
8 since that time what we have observed is there  
9 have been great improvements in the technology in  
10 terms of their ability to produce energy.

11 And what that has done is it has created  
12 a challenge for us to provide any electric  
13 connection that is adequate to take the amount of  
14 energy that the wind generators are able to  
15 produce.

16 We have just a few statistics about what  
17 we're dealing with. We've got 365 megawatts of  
18 contract. Nameplate means that we have installed  
19 up there about 352 megawatts of machine nameplate  
20 capability.

21 Although it's in a single wind regime  
22 there is a simultaneous ability to generate about  
23 310 megawatts. And the approach that we have  
24 taken to do a system planning is to try to provide  
25 sufficient capability to be able to take

1       whatever's being produced on a simultaneous basis.  
2       And over the years we've seen that this number has  
3       crept up to the simultaneous 310.

4               But we also do planning on the system  
5       every year. In the last five years or so I think  
6       we've been working very cooperatively with a lot  
7       of the wind generators in Tehachapi to get better  
8       understanding of when they're doing repower of  
9       existing contracts, which, again, improves their  
10      ability to generate and increases the system  
11      simultaneous number that we have to plan for.

12             We have future requirements on this 66  
13      kV network currently that we're dealing with. We  
14      have 566 megawatts of active generation  
15      interconnection requests, and these are market  
16      generators seeking to connect to the electric  
17      grid. They are not specifying 66. It's going to  
18      take some new construction in the area to be able  
19      to accommodate those market generators.

20             There are deliveries that are being  
21      planned for as early as 2005, although we don't  
22      know whether or not we'd be able to have the  
23      facilities in place by that date.

24             And also keeping in mind that this whole  
25      area has to be planned to be able to accommodate

1 customer market load growth, other wholesale  
2 market generator activities.

3 MS. JONES: Pat, can I ask you a  
4 question?

5 MS. ARONS: Yes.

6 MS. JONES: Of the 566 megawatts of  
7 interconnection is that wind, or are there  
8 additional resources included there?

9 MS. ARONS: They're wind generators.

10 MS. JONES: Okay, thank you.

11 MS. ARONS: But they are market. In  
12 other words, they have approached us under the  
13 FERC tariff protocols for interconnection of new  
14 generation. So they are not currently seeking --  
15 they're not waiting for developing a contract in  
16 order to proceed with the renewable connection.

17 The other thing I would point out is  
18 anybody that's going to proceed through a  
19 renewable solicitation would be required to go  
20 through a FERC tariff protocol process for  
21 interconnecting anyway, so. I think these  
22 generators are probably ahead of the game in  
23 seeking interconnection at the moment.

24 How should resources in the region be  
25 connected to the grid. We need to be very careful



1 in deciding what to build. Putting a conceptual  
2 plan up to be able to accommodate 4000 megawatts  
3 of generation over the long term is a very very  
4 useful exercise. But we also need to be very  
5 practical in how we go about actually deciding to  
6 build that system.

7 The dynamic that we're going to be faced  
8 with, I believe, as we build out the resource is  
9 looking at who's going to be the buyer, the  
10 ultimate buyer of this resource, which utility.  
11 It isn't enough to plan delivery to a single point  
12 on the grid, such as Antelope or down to Vincent  
13 on the Edison grid, but rather where do you have  
14 to ship this power across the grid. Who's going  
15 to be buying it. Is it going to be bought by PG&E  
16 and San Diego. Will it be bought offsystem by  
17 somebody outside of the state.

18 The machine type if going to be very  
19 important to us. I'll go into that a little bit  
20 later as to what the issues are there.

21 The operational impacts of wind  
22 generation and the collector system requirements.  
23 And we can talk about these a bit more. They're  
24 little placeholders for us.

25 One critical question that we have and

1       that we need to think about carefully is when  
2       we're talking about wind in the single wind  
3       regime, and when I say that I mean when the wind  
4       is blowing, how much generation are you going to  
5       pick up over what period of time. And what that  
6       does is it creates a ramp rate. And at any moment  
7       in time you have to be able to control your system  
8       frequency, so other generation will have to offset  
9       what production is being picked up by wind  
10      generators in one wind regime. You have to find  
11      offsets.

12                VAR consumption. Typically the old  
13      style wind generators were simple induction  
14      machines, which required VARs to be consumed off  
15      the system. And today's technology, there is a  
16      technology out there that's much better at  
17      managing VAR consumption rates, but again, until  
18      we know what type of machine we're going to hook  
19      up, we need to be very cautious in presuming that  
20      we have an adequate plan to be able to accommodate  
21      that generation.

22                PRESIDING MEMBER GEESMAN: Pat, when you  
23      mention the other generation to deal with your  
24      ramp rate, how nearby does that need to be?

25                MS. ARONS: It's a systemwide question.

1       It's a control area question. So the ISO would  
2       need to have generators across the state that had  
3       the ability to offset in these very exact amounts  
4       in order to control 60 Hertz frequency. This is a  
5       system frequency question.

6               And if you take Tehachapi, for example,  
7       we have seen power ramp up from zero to 300  
8       megawatts in about a half an hour. If you extend  
9       the Tehachapi wind regime to a 4000 megawatt  
10      amount of power, you have to find -- well, you  
11      have to be aware that potentially your ramp rate  
12      could be as high as 8000 megawatts an hour, which  
13      means that if you're going to ramp Tehachapi from  
14      zero to 4000 in half an hour, you have to ramp  
15      something else from 4000 to zero in the same  
16      amount of time.

17             That's a control question for the ISO.  
18      And we have seen some studies out there that we're  
19      not sure have really been as precise in addressing  
20      the question. And I think it just warrants  
21      further consideration, and caution, really.

22             I've included a few slides just to show  
23      you what the ramp rates in general look like.  
24      This particular slide shows a ramp rate of about  
25      200 megawatts in an hour. Across the bottom you

1       see minutes, so there'd be a 60 minutes across the  
2       bottom. And it goes from about say 60 megawatts  
3       up to nearly 240 megawatts. So that is a ramp  
4       rate of about 190 megawatts per hour.

5               This next slide will show you about 287  
6       megawatts per hour. And this also shows that you  
7       have the same question coming down the curve as  
8       the wind stops blowing. You have production  
9       ramping down.

10              And the VAR consumption, again, is a  
11      technology question. Now, keeping in mind our  
12      conceptual plans were prepared without knowledge  
13      of what the specific machine data is, this would  
14      be a question that we would have to deal with at  
15      the time that a generator were to come to us to  
16      seek interconnection. We would require knowledge  
17      of what the machine data is so we could address  
18      the question of what the impact of that machine  
19      would be on the voltage in the area.

20              Are there other alternatives. Boy,  
21      there's lots of alternatives. You can name as  
22      many. And building to the north would involve  
23      PG&E -- where's Chifon -- Chifon, this is your  
24      problem.

25              (Laughter.)

1 MS. ARONS: I understand PG&E is going  
2 to be buying a lot of power, wind generation, I'm  
3 sure, would be something that PG&E would look at  
4 buying. There have been suggestions that have  
5 come up.

6 This whole question of Tehachapi is the  
7 subject of a PUC proceeding right now in the AB-  
8 970 proceeding. And there's an investigation in  
9 transmission. Tehachapi was phase six in this  
10 I00-11-001 proceeding. And there have been  
11 alternatives that have been suggested. You can  
12 build north, you can build south. You can build  
13 500 or 230. And, you know, any number of  
14 variations after that. And I won't bore you with  
15 a discussion.

16 This is our conceptual phase one plan.  
17 And what you see in the yellow line that goes from  
18 Pardee to the Antelope vicinity and north to a new  
19 substation in the Tehachapi area was proposed  
20 initially, I think, two or three years ago as an  
21 initial stage of development that could  
22 accommodate between 400 megawatts and 600  
23 megawatts of new wind power.

24 At the time that we proposed this we  
25 were thinking something like 600. I think now

1       because of some voltage conditions we've been  
2       dealing with in that time we're inclined to think  
3       it's probably good for more like 400 megawatts.

4               There's a lot of obvious things that you  
5       can see when you look at this. It's a designation  
6       for a 230 kV line. What you don't see is a  
7       collector system from the various wind parks that  
8       would deliver it to a new substation at the  
9       northern end. And the collector system would  
10      become part of any project that we would go out  
11      and try to get licensing from the PUC.

12             The way that we would see this phase one  
13      being developed would be that there would be  
14      sufficient generation contracts that would warrant  
15      construction of this first phase of this Tehachapi  
16      concept, the 230 line.

17             Once we know what the contracts look  
18      like, once we know what the machine types are, and  
19      the very specific requirements on their geographic  
20      location, we would then begin to lay out the 66 kV  
21      collector system. And then do all the  
22      environmental assessments on that, which we do not  
23      have now, because obviously we don't know where  
24      those specific lines would be built. So we're not  
25      really prepared at the moment to file a CPCN

1 application.

2 If you're familiar with the PUC  
3 proceeding I think you're probably well aware of  
4 some of the questions associated with the  
5 Tehachapi project. And one of the questions is  
6 this question of who pays. And it's currently  
7 undergoing review. And it has been a stumbling  
8 block in terms of the risk. It really becomes a  
9 question of what's the risk.

10 And in order for you to understand the  
11 question of the risk, even if the utilities were  
12 to start out and say, we're willing to roll these  
13 into network rates, the way that FERC ratemaking  
14 works is that you build the project and then you  
15 file your rate application. And at the time that  
16 you do that the investment has already been made.  
17 And everybody has proceeded with their projects  
18 and the financial requirements, presuming the  
19 utilities will roll the project into rates.

20 But FERC could very well look at this  
21 project and say functionally it does not meet the  
22 test of the network line, and therefore we're  
23 going to make it a generation timeline  
24 requirement, so the generators are required to  
25 finance the project.

1           Were that to happen that would move the  
2           big cost responsibility over onto the generators  
3           financial sheet at a time that they might not be  
4           prepared to handle that question, and could very  
5           well decide not to proceed with operation with  
6           their projects.

7           So then you have a line that's been  
8           built that's not allowed in rates. And clarity on  
9           whether or not the PUC would support a rate  
10          mechanism for that would not be known at the time  
11          you go forward.

12          So we've been pushing the Commission to  
13          be clear about setting up a rate mechanism before  
14          you take something to FERC and ask for FERC  
15          ratemaking. And so we've been doing a lot of  
16          challenging, I think, of the Commission decisions,  
17          and asking for review, simply to get clarity  
18          around this issue. It's a difficult issue.  
19          Lawyers don't seem to give us any clear guidance  
20          on it.

21          This is the 2017 plan that was filed in  
22          the statewide transmission plan. And you can see  
23          on here a fuller development of Tehachapi. But  
24          you also see, interestingly, the north of Lugo  
25          system, where you can go up to the China Lake



1 area, as Cal Energy point out, with some wind  
2 generation -- or, I'm sorry, geothermal.

3 But going on, looking at Tehachapi in a  
4 little closer detail, the red designates new 500  
5 kV lines and the thick blue designates new 230 kV.  
6 And with the development of 4000 megawatts in the  
7 CEC renewable potentials that were filed on  
8 December 1, we felt that it would probably be  
9 prudent to go with the 500 kV ultimate long-term  
10 option, because there were fewer facilities  
11 involved.

12 But this leads to a lot of planning  
13 types of questions in terms of where you build new  
14 500 kV lines. One critical question that we would  
15 need to address is for the two 500 kV lines that  
16 go up to this new substation one, we would ask for  
17 or seek separate transmission rights-of-way so you  
18 don't have a single event taking out two 500 kV  
19 lines, that would take out simultaneously 4000  
20 megawatts of wind generation, which would become a  
21 very large contingency for the control area to be  
22 able to withstand.

23 So how you do planning for this network  
24 has a lot of intricacy that while we put it up as  
25 perhaps guidance on what we might want to develop

1 in the long term, development of this particular  
2 plan needs to be very carefully thought through.

3 And the other thing I wanted to point  
4 out about that drawing is, again, that doesn't go  
5 into the collector system. We didn't have enough  
6 information about the exact specifics of where the  
7 wind generation was going to be to propose or put  
8 out much information about collector systems.

9 There was a question about the preferred  
10 interconnection and what level of resource  
11 development would support. And I want to be  
12 careful to make sure that everyone understands  
13 that while we have a conceptual plan we don't  
14 really consider it preferred yet. We really do  
15 need to do a lot of additional study.

16 And the conceptual plans were prepared  
17 assuming that Edison was the buyer of all the  
18 resources that were connecting to the grid. And I  
19 think the PUC Commission recognized that question.  
20 And has asked in Tehachapi, in particular, that we  
21 go back and take a look at where generators might  
22 want to connect to one utility but sell to another  
23 so that we can begin to capture some of the  
24 potential congestion impacts.

25 I think we're all aware that the DWR

1 contracts that have been signed face a lot of  
2 potential congestion. And that's one of the  
3 things that we do want to try to avoid as we plan  
4 a large amount of generation development. We  
5 really want to be careful about building in new  
6 problems. And so knowing who the buyer is  
7 ultimately will be an important consideration for  
8 us.

9 I think the other thing is when you talk  
10 about a preferred plan, I thought that might be a  
11 good question to give some thought to. What would  
12 a preferred plan look like. A preferred plan  
13 would be something that's going to be flexible to  
14 accommodate staging, which in my way of thinking  
15 about it, it's a plan that allows you to build a  
16 portion of the full development at any one time.  
17 It's a plan that can accommodate different buyers,  
18 different wind generation connection points,  
19 different machine types, various wind development  
20 stages.

21 And also you want it to be rational,  
22 orderly and cost effective. And that's just kind  
23 of code words for being sensible. You have to be  
24 very cautious and sensible about how we do this.

25 We don't want to disrupt current

1 operations. As an example, if we, in our plan,  
2 had a rebuild of an existing line, well, the  
3 impact of taking that line out of service while  
4 you're doing rebuilding is going to have an impact  
5 on the operation of the rest of the grid in terms  
6 of other generation deliveries. We have to be  
7 careful about how we do that.

8 We want a preferred plan to be timely.  
9 We want it to have reasonable financing  
10 requirements. You want to be able to fairly  
11 accommodate the needs of multiple developers. And  
12 you want to avoid as best you can a piecemeal  
13 decisionmaking and free riding.

14 If FERC protocols allow a generator or  
15 require a generator to fund a transmission upgrade  
16 subject to a five-year payback, well, the next  
17 generator to come along may not face that if a  
18 facility is already in place.

19 Will this interconnection affect  
20 transmission outside the local area. Definitely,  
21 without question. Things that can be affected  
22 would be Big Creek. Antelope, which is a source  
23 station for the existing 66, but also part of the  
24 long-range development, is a connection on the Big  
25 Creek transmission system. That's about 1000

1 megawatts of hydrogeneration that comes down that  
2 corridor.

3 We could affect both the south of  
4 Vincent and the south of Lugo transmission line  
5 loadings. You're all probably are aware that on  
6 last Monday we had a transmission emergency  
7 declared by the ISO based upon a loading  
8 constraint on the south of Lugo lines.

9 We can celebrate the fact that Edison  
10 has a transmission plan that we're working on  
11 constructing -- it's just a month short of being  
12 in place -- to avoid that problem. But we did  
13 anticipate it.

14 We could affect Path 15 and Path 26 if  
15 we're doing northbound deliveries to PG&E. And  
16 Path 44 could be affected by deliveries to San  
17 Diego. And I'd also point out anything in between  
18 that can become a bottleneck.

19 Existing corridors. Yeah, we'll need  
20 both kinds, existing and new. We've done a lot of  
21 work. They've been conceptual. We've done some  
22 environmental assessments from the Pardee  
23 substation up to the Cal Cement area. We're not  
24 going to make anything public on environmental  
25 assessments until we actually file a CPCN.

1           We do annual assessment results of the  
2   Tehachapi area, the existing system in our ISO  
3   annual assessment. We have a stakeholder process  
4   where people can participate. The CEC can and  
5   does participate in that.

6           And we include the annual assessment  
7   results. We'll discuss them in our stakeholder  
8   meetings, but we're somewhat cautious about  
9   posting them on the internet because of security  
10  concerns.

11          Also, generation system impact studies  
12  are not made, typically not made public at this  
13  point until the generator gets into licensing with  
14  the CEC.

15          Permits. Your guess is as good as mine.  
16  Permitting is a pretty intense activity when we  
17  get into it. The thing to be aware of on  
18  permitting is we have to know, in order to  
19  effectively permit any facility, exactly where  
20  every transmission tower is going to be sited.  
21  And from that then we're able to do very  
22  particular environmental assessments of that exact  
23  location. And that's true along the whole length  
24  of the transmission line. So, it's a very  
25  detailed process.

1           The other thing worth mentioning is long  
2   lead time equipment procurement can be an issue  
3   when you're dealing particularly with big  
4   transformers that are coming in from overseas.  
5   And our experience is there's a lot that happens  
6   to that transformer by the time it leaves Japan or  
7   Spain or wherever it's coming from. It can get  
8   knocked around on the high seas. It can get  
9   dropped and kicked and bumped, and anything else.  
10   And so that can often foul up your plans for  
11   getting something into operation quickly.

12           What's our recommendation, corridor  
13   planning. I think we've talked about that. And  
14   there's a little bit coming up that speaks to what  
15   we think we can do with corridor planning. But I  
16   think an important thing that we have the  
17   opportunity to do now, and I think I've said this  
18   before, is let's take the time to improve our GIS  
19   databases that will support our feasibility and  
20   impact assessments. And there's nothing to  
21   prevent us from starting doing that work today.

22           Developing a programmatic EIR is  
23   something that we could do if we had a set of  
24   adopted corridors. And there are three areas that  
25   I think are important to think about here. If you

1 had a programmatic EIR, and you had adopted  
2 corridors, and you had an idea of what your  
3 environmental impacts would be, you can start  
4 working with local jurisdictions on master  
5 planning to incorporate the corridors into their  
6 master plans.

7 You can start doing statewide  
8 environmental mitigation so that if you end up  
9 building a transmission line in an adopted  
10 corridor, you can then participate in a statewide  
11 environmental mitigation for an identified  
12 environmental problem.

13 Also this third point is supporting  
14 regulatory mechanisms to allow utilities to  
15 acquire and hold right-of-way for future use  
16 longer than five years. Current PUC methods for  
17 rates limit future use of transmission right-of-  
18 way to be no more than five years.

19 And literally what that does is you can  
20 only hold a transmission line right-of-way for a  
21 defined project. You can't do so in the  
22 anticipation that within 20 years you're going to  
23 be doing something. What that does is it really  
24 blocks our ability to effectively take an adopted  
25 corridor and realize an actual right-of-way



1 alignment, because unless the city's willing to  
2 work with you and not issue housing permits along  
3 that corridor, you end up dealing with an area  
4 that's going to be very difficult to get your line  
5 through in the long run.

6 PRESIDING MEMBER GEESMAN: Has that  
7 five-year horizon always been the regulatory  
8 policy at the CPUC?

9 MS. ARONS: I couldn't tell you what  
10 year, but it was either two rate cases ago they  
11 changed it from being an indefinite kind of thing  
12 to a very defined five-year time limit. It used  
13 to be that we were able to hold transmission  
14 rights-of-way for very long periods of time.

15 PRESIDING MEMBER GEESMAN: Right.

16 MS. ARONS: Now it doesn't work like  
17 that. So, I've been trying to get an  
18 understanding what FERC allows, and I suspect that  
19 FERC -- I haven't gotten a definitive reading on  
20 this from our regulatory people, but I suspect  
21 that FERC actually only allows operating  
22 facilities into rates, which probably is even more  
23 onerous than the PUC. At least the PUC, you had a  
24 five-year.

25 So, if -- and this is a little diagram

1 of kind of how I see the corridor planning work,  
2 is with a corridor study you could then take it  
3 into an adopted corridor. And Tehachapi, I think,  
4 is a very nice example of how this would work.

5 You have two 500 kV lines that you might  
6 want to ultimately build. And finding a way  
7 through and around the City of Lancaster and  
8 Palmdale and some of the development in the high  
9 desert there, you could then begin to do your  
10 programmatic EIR.

11 And as you start to deal with the public  
12 and your local jurisdictions, really what you're  
13 dealing with is on the issue of need. You really  
14 aren't dealing with them on an actual project that  
15 you're trying to get licensed. You're really  
16 talking about, look, in 20 years we've got to have  
17 these two 500 kV lines built. We need someplace  
18 to build them. Let's work on a corridor. And if  
19 our alignment doesn't work for you, what alignment  
20 will work for you.

21 And that gives us a way to get through  
22 that area. And you're starting your public  
23 discussion on the issue of need, not aligning the  
24 public against a particular project. And I think  
25 that's where I see the value of starting to engage

1 early on in where you're going to build this stuff  
2 with the public.

3 And then as you get to the point here  
4 you know where your generation is that you're  
5 going to hook up, and again I think it comes down  
6 to you have a concept for how you want to proceed  
7 in the state with your conceptual plan. But that  
8 becomes a benchmark in terms of the actual  
9 generation that you want to hook up. Does it fit  
10 within that conceptual plan. Are you able to use  
11 these corridors. Or is it just off enough that  
12 perhaps in a cycle or two you need to do some  
13 adjustment to your conceptual plan and your  
14 corridor plan. And again go through the cycle of  
15 working with your public.

16 The dynamic there, as I see it, is we're  
17 never going to be perfectly able to have a project  
18 work exactly the way we want. But starting this  
19 dynamic engages the right -- it engages the public  
20 early; it makes it more of a societal question on  
21 where to build, how to build.

22 And then when you do get to a point  
23 where you're ready to start your licensing  
24 activity, the project or the concept has a track  
25 record already. And I see a great deal of value

1 to that.

2 Integration, system needs and  
3 transmission needs. I know that Mr Sparks from  
4 the ISO is going to talk a lot about the regional  
5 needs, but I'm going to say the sensible and  
6 appropriate thing is you identify what you need  
7 separately. What do you need to connect  
8 generation. And then what do you need separately  
9 for system needs.

10 And then you put it all together and you  
11 see if you can defer anything. Voila, you have  
12 integration.

13 The nonsensical thing to me is you come  
14 up with a project that is either grossly too big  
15 or grossly too small, and then you start trying to  
16 find benefits for that project. That doesn't seem  
17 to work for me. And some people have suggested  
18 that, well, we have to build a fourth Midway-  
19 Vincent line via Tehachapi. And there are  
20 systemwide benefits from that. Well, you know,  
21 stay tuned for further information on that.

22 Again I think we've gone over this.  
23 There are questions, I think, the focus should be  
24 on this corridor study. Get the GIS databases  
25 improved. Start addressing the questions of how

1 much wind can be integrated on a statewide basis.

2 I think there's lots of areas of inquiry  
3 that the CEC could begin to focus on today. So,  
4 thank you very much.

5 PRESIDING MEMBER GEESMAN: Thank you  
6 very much, Pat.

7 MR. KONDOLEON: Thank you, Pat. I'd  
8 like to next introduce Robert Sparks from the  
9 California Independent System Operator.

10 MR. SPARKS: Good morning. I'm Robert  
11 Sparks from the ISO. Don had asked me to come  
12 down and add some -- sort of build off Pat's  
13 presentation. And talk about the testimony the  
14 ISO had provided awhile back regarding the need  
15 to, in addition to looking at transmission pretty  
16 much solely focused on interconnecting Tehachapi  
17 generation, also considering the regional benefits  
18 of some alternatives that could accomplish  
19 connecting the Tehachapi generation and provide  
20 other benefits to users of the ISO-controlled  
21 grid.

22 So, I really only had two main points to  
23 go through in the next ten minutes. Basically as  
24 we compare alternative long-term plans for  
25 expanding Tehachapi transmission we need to

1       consider regional benefits; and at the same time  
2       determine a first phase of the plan that will  
3       allow the interconnection of generation that's  
4       already in the ISO interconnection queue.

5               Essentially in my mind regional benefits  
6       are just making sure we consider the cost and the  
7       benefits for all users of the ISO-controlled grid.

8               In addition to looking at upgrade  
9       alternatives, so we focused on interconnecting  
10      Tehachapi generation, some other alternatives.  
11      Should consider the ability to possibly increase  
12      the Path 26 transfer capability. Pat did touch on  
13      this.

14              And other possibilities are increasing  
15      ability to deliver energy to handle pump storage  
16      facility. Could even tie that into some of the  
17      control area issues Pat had brought up earlier.  
18      Being able to store all this energy that ramps up  
19      or drops off and start generating with the pump  
20      storage facility would be a very nice fit in my  
21      mind. So we should consider the ability to  
22      increase utilization of this facility which is a  
23      little bit transfer transmission limited, or the  
24      pump load quite a bit transmission limited.

25              And also some of the plans to upgrade

1 transmission to the Tehachapi area could be  
2 dovetailed in with the long-term reliability needs  
3 of load in the San Joaquin Valley area. Both PG&E  
4 and Edison load.

5 Essentially, as Pat pointed out, one  
6 obvious alternative or promising alternative would  
7 be to build a fourth Midway-Vincent line and loop  
8 it through Tehachapi. You're looking at wind  
9 generation that tends to generate or utilize  
10 facilities, you know, radial transmission lines  
11 connected to wind generation. They're only  
12 utilized about 35 percent of the time. So that,  
13 you know, leaves 65 percent of the time when  
14 they're unutilized, in effect.

15 If this was a line that could also be  
16 used to increase the transfer capability on Path  
17 26, when the wind generation is not there, that  
18 would seem to be a better utilization of those  
19 assets.

20 Courtesy of some Oak Creek testimony, we  
21 have some conceptual ideas of where to route the  
22 lines. I think Hal will probably talk about this  
23 some more. He's spent a lot of time thinking  
24 about this. But, the yellow represents some  
25 possible corridors for 500 kV between either

1 Vincent or Pardee up to Midway.

2 The other possibility is, well, first  
3 let me provide a little background. PG&E, for  
4 some time, has been developing a long-term plan  
5 for expanding the Fresno transmission system. And  
6 in that plan the primary objective is making sure  
7 they had an ability to serve the load for the next  
8 five to ten years reliably, meeting the ISO grid  
9 planning criteria.

10 Another objective was to increase to  
11 Helms pumping capability. They went through an  
12 extensive evaluation with the cooperation of the  
13 ISO, or participation of the ISO, and determined  
14 that the Gates Grade 230 kV double circuit  
15 transmission line project was the preferred  
16 project.

17 Another project analyzed in that was an  
18 interconnection with Edison on there; the lines  
19 connecting the Big Creek generation  
20 interconnecting with the lines essentially  
21 connecting either the Helms or other Kings River  
22 generation. This project was looked at but was  
23 not considered the preferred project.

24 But at the time the potential benefits  
25 of interconnecting those two systems to be able to



1 interconnect more wind generation was not  
2 considered. This was some testimony we brought  
3 up. The ISO does not have a position on the  
4 preferred project. We're simply just raising this  
5 as something that should be considered as the long  
6 term plan is developed. Could be used as a short-  
7 term fix to allow the ability to rebuild some of  
8 the existing Big Creek lines and offloading them  
9 during the construction. There's lots of  
10 possibilities that we should keep in mind.

11 This is just something I borrowed from  
12 the PG&E expansion plan showing Gates Grade, but  
13 the dashed lines show the double circuit Gates  
14 Grade line which is part of the long-term Fresno  
15 plan.

16 This is just a diagram showing both the  
17 PG&E and the Edison systems where they physically  
18 do cross over, but electrically do not connect. I  
19 don't know if you can see that red; it doesn't  
20 look red to me, but from this angle it looks  
21 black. That, at least on my screen here, looks  
22 red, would be a proposed substation which could  
23 interconnect these lines going from PG&E's Helms  
24 pump storage, which is a 1200 megawatt pump  
25 storage facility, for those who are not familiar,

1 I think a pretty famous plant.

2 But the transmission to be able to pump  
3 with this facility is constrained, pretty much  
4 only being able to pump with one pump for most  
5 hours. Whereas, it's capable of pumping with  
6 three pumps.

7 And these are the lines, Edison lines  
8 connecting the Big Creek system. If you  
9 interconnected the two you also would need a phase  
10 shifter to get the flow. You could possibly  
11 unload the Big Creek lines to allow the  
12 interconnection of more wind generation, and even  
13 prior to that possibly unload them to allow the  
14 rebuilding of some of them.

15 These are just possibilities, certainly  
16 not an ISO proposal. They're just, you know,  
17 questions of why not consider things like this.

18 I think I went through most of these  
19 points. The ISO has done a very rough look at  
20 some alternatives like this, in addition to PG&E  
21 also looked at them. And we found there would be  
22 some additional upgrades needed to accommodate  
23 such an interconnection. By no means was it an  
24 exhaustive study.

25 Also required would be a project that

1 Edison has been working on for some time, which  
2 would be a 230 kV line from Springville -- I don't  
3 know if we can go back there, actually got a  
4 picture further in, there it is. This project  
5 right here, Edison's been working on to insure  
6 that the record load can be served reliably and  
7 other benefits of that project. But that would  
8 also be needed, it looked like, from our quick  
9 look, would be a project needed in addition to the  
10 interconnection, the substation, to allow this to  
11 integrate properly.

12 Another possibility would be this is  
13 PG&E's Midway substation. They have some load at  
14 Bakersfield and generation served, but their  
15 system pretty much ends at this Bakersfield  
16 substation, which is about four miles from this  
17 MacGunden Edison substation.

18 Again, this is, these lines, sort of the  
19 outlet lines for the Big Creek system and some  
20 QFs. Another possibility to build the tie here  
21 and a phase shifter to pull off some of this  
22 generation coming from Big Creek, pull it under  
23 the 500 system here at Midway so that you can  
24 interconnect some wind generation here.

25 But, again, this could be something to

1 offload the system while you're rebuilding some of  
2 these lines. Just another thought.

3 And we did take a quick look at this,  
4 also, and did not find any major impacts. Doesn't  
5 have the benefits of being able to pump with  
6 Helms, but just another possibility.

7 Another possibility would be to add a  
8 second circuit to an existing QF transmission  
9 line, commonly known as the Sagebrush 230 kV line  
10 that runs from Vincent up to Tehachapi. I think  
11 there's a picture here. Essentially this line  
12 right here is a single circuit right now, and  
13 connects about 400 or 500 megawatts of generation  
14 right now, I believe. It only has a single  
15 circuit. A question we have is why not add  
16 another circuit to that and double its capacity  
17 hookup and generation.

18 As Pat was going through earlier, this  
19 900 megawatts may be a little overstated, but,  
20 still, it's on that order of magnitude.

21 Jumping back from those very conceptual  
22 plans, the reality is we actually have some  
23 generation lined up in our queue to interconnect  
24 at Tehachapi that, you know, we're obligated to  
25 move forward to our interconnection process per

1 the FERC rules.

2 But at the same time, we want to make  
3 sure that as we interconnect these generators that  
4 want to build at Tehachapi, that the facilities we  
5 build for them also coordinate with the long-term  
6 plan. Essentially we'd like to come up with a  
7 first phase of the long-term plan that would also  
8 allow us to interconnect these generators in a  
9 timely manner.

10 So this is another constraint to any  
11 long-term plan that we build. We move forward  
12 quickly so we don't impede the ability of these  
13 generators to move forward. At the same time we  
14 don't want to build facilities that don't fit with  
15 the long-term plan, or even conflict with it.

16 Some things we've thought about would be  
17 building lines that could be initially energized  
18 at 230, to connect generators fairly quickly.  
19 Build them for 500, with 500 kV design, and build  
20 them in a corridor that would eventually get you  
21 from Midway to Tehachapi to Vincent, or Pardee.

22 But to the extent we know where we want  
23 to end up five or ten years from now, we can use  
24 that as an overall long-term plan. And as we  
25 build initial phases to connect this generation,

1 we could position ourselves to end up with a 500  
2 kV line.

3 Or if 230 ends up being the long-term  
4 plan, making sure that any lines we build are  
5 built with the ability to put two circuits on  
6 there, rather than just one, and having to build  
7 and occupy two corridors. We could just occupy  
8 one and save a substantial amount of cost by just  
9 building one tower instead of two, in effect.

10 So, if we knew the long-term plan prior  
11 to interconnecting these generators we could make  
12 these decisions more intelligently. But, on the  
13 other hand, we can't hold up these generators for  
14 two years to let them get started.

15 So I think that's really the two main  
16 points I wanted to make. Oh, I think most people  
17 here, I'm sure, are aware the CPUC has a proposed  
18 decision which essentially says that the long-term  
19 transfer plan for Tehachapi needs to be developed  
20 for various RPS purposes.

21 And it includes a role for both the ISO  
22 and the Commission Staff to coordinate a study  
23 group, obviously including, you know, the  
24 transmission owners and stakeholders, to develop  
25 this long-term transmission plan. The ISO is

1 ready to fill that role whenever the proposed  
2 decision becomes a final decision.

3 And just as a reminder at this time, the  
4 ISO does not have any preconceived notions  
5 regarding the best option for Tehachapi. We just  
6 have some questions, I guess.

7 That's all I have, Don.

8 PRESIDING MEMBER GEESMAN: Thanks,  
9 Robert.

10 MR. KONDOLEON: Thank you, Robert. Let  
11 me next introduce John Fischer from PPM Energy.

12 MR. FISCHER: Hi, I'm Jon Fischer from  
13 PPM Energy. Thanks for having me; I'm glad to be  
14 here talking about this very important topic for  
15 California and for our company, in particular.

16 First off, I'd say, like Pat, I do have  
17 some color in my presentation here. I have about  
18 10, 11 slides. None of it's too exciting, though.  
19 We're basically talking about transmission. Had I  
20 known we could put family pictures, however, --

21 (Laughter.)

22 MR. FISCHER: -- I've got the world's  
23 cutest three-year-old boy, but I didn't know that.  
24 I do have a wallet-size later, if anybody wants to  
25 see that.

1 (Laughter.)

2 MR. FISCHER: I'll just breeze through  
3 this, if I can do this correctly. Real briefly,  
4 my agenda, and I'll try to keep this brief.

5 First couple things I want to do is talk  
6 about who we are. Not in terms of a marketing  
7 presentation for you, but I do think it's  
8 important for folks to know who's, in the  
9 development community, who's out there wanting to  
10 invest in the State of California in renewables.

11 My last bullet is most important for  
12 this workshop, which is really a PPM business  
13 focus, and it's what we're doing in the Tehachapi  
14 area, as far as wind generation.

15 First of all, our parent company is  
16 ScottishPower, one of the world's largest publicly  
17 traded energy companies. Noteworthy on this slide  
18 is that I guess I would say ScottishPower is  
19 seemingly one of the few companies that made it  
20 through the last few years, the energy crisis,  
21 relatively unscathed. In fact, is a growing  
22 energy company whose stock prices relatively --  
23 it's held up. In fact, it's increased.

24 And important for this workshop I would  
25 point out the last bullet, ScottishPower is the



1 UK's largest wind developer with some aggressive  
2 expansion plans which really synchs up well with  
3 what PPM Energy is doing.

4 This next slide is, rather than a boring  
5 oratory, I just wanted to show how PPM Energy,  
6 it's kind of a slogan built on the foundation of  
7 the ScottishPower Group. It's a good depiction of  
8 how we've organized our company. ScottishPower,  
9 they have four divisions; two on the competitive  
10 divisions, they call them, and two regulated.

11 In the UK, they have the UK division.  
12 And PPM Energy occupies the upper right corner.  
13 That's my company. On the regulated side they  
14 have a company called Infrastructure; and the  
15 regulated utility based out of Portland,  
16 PacifiCorp, which most of you are probably aware  
17 of. All told, the company has over 14,000  
18 megawatts of generation and a very strong balance  
19 sheet.

20 A little about PPM Energy.  
21 Headquartered in Portland. Noteworthy on this  
22 slide I would say is that we are the second  
23 largest wind developer in the United States,  
24 behind FPL Energy. We've a diversified energy  
25 company. We're not a single wind developer with a

1 small portfolio trying to just maybe hook up a few  
2 wind projects to make us go.

3 We have an established business. We  
4 have three business lines, wind generation,  
5 thermal generation and natural gas storage. I  
6 would say the other noteworthy thing on this slide  
7 is that we have an A-minus corporate credit  
8 rating, which, in these days, are harder to come  
9 by in this business.

10 A little bit about our assets.  
11 Hopefully you can see the red dots, although  
12 Robert's right, they do show up as black. Black,  
13 red, timely for what we're talking about today.  
14 Those are PPM's wind generation assets. Assets we  
15 either have developed, built ourselves, or have  
16 purchased 100 percent of the output from, from  
17 other developers such as FPL Energy. We actually  
18 have a very good relationship with FPL Energy.

19 The Stateline project in the upper left  
20 corner, for example, Stateline refers to the state  
21 line of Oregon and Washington. I heard reference  
22 earlier to the hopeful building of the future  
23 world's largest wind project As far as I'm aware,  
24 Stateline, right now is the world's largest wind  
25 project. It's generating at 300 megawatts. And

1 FPL Energy built that project, and PPM Energy  
2 actually took the output of that project on a 100  
3 percent merchant basis, and has been actively  
4 marketing the output over the last three to four  
5 years. And, in fact, that project is sold out.

6 Noteworthy in California are the two  
7 projects that we have an interest in. High Winds,  
8 which is actually on the cover of my presentation,  
9 High Winds in Solano County, California, came into  
10 service about a year ago, I think. And Mountain  
11 View in the San Diego area, 25 megawatt project  
12 that we own.

13 We're looking to do a lot more in  
14 California; we're hoping to do a lot more of these  
15 reddish black dots. And particularly Tehachapi,  
16 we'll talk about more of that later.

17 In the upper right corner, if you  
18 tallied it all up, as far as wind we have 830  
19 megawatts in the ground that we have built or  
20 purchased all the output from. And we have a 2000  
21 megawatt goal by 2010.

22 A little bit about our customers. I  
23 think Pat referred to this earlier, we do things a  
24 little bit differently. We're willing to invest  
25 ScottishPower capital and build wind projects.

1 And essentially make some markets out of that.

2 And we don't do that in areas where we're not sure  
3 about the demand. We go into areas where we're  
4 confident the demand is there.

5 But if you look at this list, this is a  
6 list of customers that we've sold one kind of wind  
7 product to or another. And that ranges from buss  
8 bar intermittent wind, where the customer takes  
9 all the variability, intermittency; he handles the  
10 reserves, the transmission issues, the imbalance  
11 issues. To ranging all the way to monthly firm  
12 energy with damage provisions behind it that looks  
13 a lot more like a standard wholesale product that  
14 might be traded.

15 And all that comes with green tags.  
16 We've had good success structuring various  
17 different products to both public and private  
18 entities, as you can see from the list.

19 A little bit about how we get projects  
20 in the ground. At any given time we have a  
21 pipeline that we call it, and right now we have  
22 6000 megawatts, give or take, of potential  
23 projects in our pipeline. I should say projects  
24 that are in our pipeline that have good wind  
25 potential.

1            Depending on where they are in the  
2            development stage, permitting, customer demand,  
3            they may get to the further right of this diagram.  
4            As it shows, we have 830 megawatts of proven  
5            resources and, as I said earlier, our goal is 2000  
6            megawatts by 2010. And noteworthy, I inserted our  
7            Tehachapi goal of 200 to 500 megawatts by the end  
8            of 2006. And I'll explain why that 2006 date is  
9            important.

10           Right here. First, getting to the meat  
11           of this, the first bullet, which I underlined for  
12           a reason, our focus is to bring 500 megawatts  
13           online in the Tehachapi area by December 31, 2006.  
14           There are different opinions on what's going to  
15           happen in D.C. with the production tax credit.  
16           Our legislative policy expert, Robbie Roberts,  
17           who's sitting in the audience here, tells me that  
18           if we get one, which he thinks we will -- he  
19           assures me we will -- it may be a one-time deal  
20           that would expire in 2006.

21           You know, we don't know. Nobody has a  
22           crystal ball. We're working on that. We'd like  
23           to see one on a more permanent basis, but you just  
24           don't know. But if you assume it does end in  
25           2006, that doesn't mean wind will stop. But it

1 does mean it's not going to be as economic. And  
2 our company's out getting wind built on an as-  
3 economic basis as we can. And we think we can do  
4 it; we've made good progress with Edison and the  
5 ISO. We think we can get some projects in in this  
6 2006 timeframe which allows us to capture that  
7 production tax credit benefit. I'll talk more  
8 about that the next slide, by the way.

9           Toward that end of getting projects in  
10 the ground by 2006 we have a 200 megawatt project,  
11 south of Tehachapi in L.A. County. I think it's  
12 been referred to by Robert and by Pat. Those  
13 projects that are in the queue, one of them, at  
14 least, is a PPM Energy project.

15           It's been in the queue for a year and a  
16 half, coming up on two years. We have other  
17 projects in the ISO queue that we want to move  
18 ahead with. However, we are really focusing on  
19 that 200 megawatt project as it has the most work  
20 completed to date and has a plan of service for  
21 transmission upgrades that would allow it to  
22 interconnect to the grid.

23           Regarding that 200 megawatt project, I  
24 would just emphasize we have worked very  
25 cooperatively with Edison through the FERC

1       prescribed interconnection process. It moves  
2       around a little bit. FERC's been changing their  
3       own rules through Order 2003 and 2003A and B, and  
4       you know, we're trying to follow all that.

5               But in essence the rules have been  
6       roughly the same over the last ten years or so as  
7       to how to interconnect a generator. And we're  
8       used to following that process. And that's how  
9       we've worked; and we've interconnected all the  
10      projects that I showed you on the earlier chart.

11             Some progress to date with Edison. They  
12      have completed a system impact study for what I'll  
13      call L.A. County project. The facility study,  
14      which identifies transmission upgrades necessary  
15      to interconnect it to the grid, was completed in  
16      February. And since that time we've kind of been  
17      in pre-interconnection agreement discussions with  
18      SCE. And I'm hopeful that we can get to an  
19      interconnection agreement here in the next couple  
20      months.

21             The CPUC proceeding regarding the  
22      comprehensive plan in Tehachapi has slowed us  
23      somewhat, but I think we're still moving ahead  
24      with the interconnection. The bullet I should  
25      have added here is signing that interconnection

1       agreement, and then PPM Energy funds the upfront  
2       money necessary to build that line. That's an  
3       issue that Pat brought up, and there's no  
4       disagreement between our company and hers as to  
5       how that should work.

6               This is a little repetitive, but it's  
7       important. If I had to emphasize one thing in my  
8       presentation it would be the timing of this, and  
9       the critical nature of getting a project in by  
10      2006.

11             I mentioned the speculation about what's  
12      going to happen with production tax credit. It is  
13      speculation, but in the development circles it  
14      seems fairly real. And it's a \$20 issue. That  
15      means that can really make or break a project. It  
16      lowers our cost to that extent, which lowers our  
17      production costs, and in turn, allows us to  
18      provide lower cost wind power to California at an  
19      earlier date.

20             It doesn't mean we're going to stop with  
21      projects after that; it's just this may be a  
22      fleeting opportunity, so to speak, to get -- I  
23      don't want to throw the economics out, but say,  
24      you know, \$50 wind in the ground, as far as you  
25      can see, versus \$70 wind. I mean those are real



1 numbers.

2 Requirements to complete that project,  
3 and specifically I'm talking about the 200  
4 megawatt project here. Substantial phase one SCE  
5 transmission upgrades. SCE has identified those.  
6 I wasn't sure what level of detail Pat would go  
7 into, but she basically laid it out.

8 We're talking about the Antelope/Pardee/  
9 Vincent triangle. Specifically a new 230 kV line  
10 between Antelope and Pardee is the major piece of  
11 the upgrade. I'd like to call that phase one.  
12 Nobody's officially deemed that phase one. I  
13 would surely like to call it phase one. And I  
14 think, if you look at the various conceptual plans  
15 being kicked around, most of them agree on one  
16 thing. That you need substantial upgrades in that  
17 area. And the project that we are proposing will  
18 build those upgrades.

19 The last bullet represents I guess why I  
20 would suggest that the PPM project represents both  
21 phase one of the transmission upgrades, and the  
22 wind and transmission solution I should say.

23 Why is that. Well, our project has the  
24 highest ISO queue status in the SCE Tehachapi  
25 area. We are a motivated developer, as Pat

1 mentioned, not necessarily requiring an RPS sale  
2 to make our project go. We have done some  
3 projects in the past on a merchant basis. The 300  
4 megawatt project on the border of Oregon and  
5 Washington as an example.

6 Surely, I'm not going to tell you we  
7 don't want to get some sales, that's what it's all  
8 about. And we think we will. It's a good  
9 project. And if it's first in the door it's  
10 certainly going to be popular. But we're willing  
11 to move ahead either way.

12 Finally, my presentation has one map.  
13 This is it. It's a simplified, probably an over  
14 simplified Tehachapi area representation that I've  
15 used to explain to folks what we're doing down  
16 here and down in that area.

17 In the green dotted line are that I call  
18 phase one upgrade area, you've seen this a couple  
19 times now, so I won't belabor it, but basically  
20 we're talking about building an Antelope to Pardee  
21 230 line which will interconnect the PPM 200  
22 megawatt project and allow that to be  
23 interconnected to the grid.

24 Now, I know there are multiple scenarios  
25 for other upgrades that may, in the long run,

1 interconnect 1000, 2000, maybe 4000 megawatts, but  
2 most folks seem to agree that an Antelope to  
3 Pardee upgrade is necessary. It just so happens  
4 that it works to interconnect our project. And we  
5 are actively negotiating that plan of service with  
6 Southern Cal Edison. We look forward to  
7 completing that interconnection agreement.

8 That's all I had. Be glad to take any  
9 questions or get into more details during the  
10 roundtable.

11 PRESIDING MEMBER GEESMAN: Thank you,  
12 Jon.

13 MR. FISCHER: Yeah.

14 MR. KONDOLEON: Final Tehachapi  
15 presentation will be by Hal Romanowitz from Oak  
16 Creek Energy Systems.

17 MR. ROMANOWITZ: Good morning; I  
18 appreciate the opportunity to talk to you here. I  
19 think, surprisingly enough, it looks like we have  
20 a fair bit of complementary and fitting-together  
21 things. I'm looking at this from a different  
22 view, trying to answer directly the questions that  
23 were raised, and will do that.

24 I'm going to give you a little preview  
25 of the conclusion, and then we'll go into the

1 details. But essentially my viewpoint is that I  
2 would agree that we should go quickly with an  
3 obvious solution which is the Pardee/Antelope,  
4 ultimately Tehachapi, line. And look at the  
5 overall larger planning context.

6 Nobody knows how it's going to come out.  
7 There are lots of unknown issues that have to be  
8 fit together. And essentially what we're arguing  
9 for is transparency, creativeness and to make best  
10 use of the overall assets that are in the area.

11 And as we go through this you'll see  
12 that this is a unique area. Not only does it have  
13 enormous wind resources, but it has enormous  
14 transmission assets. And the big question is are  
15 we using them effectively; are we doing the best  
16 thing for the state; and that sort of thing. So,  
17 with that, we'll go forward.

18 Let's look a little bit as we go through  
19 where there's three fundamental questions to  
20 answer. The number one question is how much  
21 potential is there. Number one, what is the  
22 quality of the wind resource. Number two, is the  
23 land available for wind. And number three, is it  
24 cost effective.

25 Fundamentally the Tehachapi wind

1 resource is excellent and reliable. It has a  
2 mechanism that is an underlying mechanism that  
3 makes it very reliable. Basically the cold ocean  
4 is not very far away from the hot desert, and lo  
5 and behold, you have a little funnel sitting in  
6 between, and whoosh, the wind seeks the hot desert  
7 as it gets pulled and sucked up.

8 And the jet stream goes right by us very  
9 regularly, as do the weather patterns roll down  
10 through us. So these things together create a  
11 unique resource.

12 Interestingly, there is over 20 years of  
13 production history in the area. There are 670  
14 megawatts operating. And in a way we consider  
15 this one big windfarm. And it is, by any  
16 standards, very substantial.

17 Most of the good land that is in the  
18 area is suitable for wind energy. There is little  
19 encroachment relatively speaking. There is  
20 positive public and governmental environment, all  
21 of which create the ability to build projects, to  
22 build them effectively and efficiently.

23 Land use planning is advanced.  
24 Basically there is a specific for wind energy.  
25 There is, in existence, a master environmental

1       assessment. And the zoning is set up with a wind  
2       energy zoning overlay. So it is set up, you don't  
3       have conditional use permits, you actually have  
4       zoning. And this has some very significant  
5       advantages.

6               Military interference is a significant  
7       issue. And we've been working with the military  
8       for between two and three years now. And we've  
9       developed a great consensus. We've been able to  
10      work just like we have worked with the local  
11      government, we've been able to work with the  
12      military. The military has worked with us. We  
13      think that the relationship is quite good.

14             And contrary to other people that are  
15      having major breakdowns in trying to work with the  
16      military, we think that we're essentially very  
17      very near a consensus. There is an interim  
18      ordinance in place so that the military isn't  
19      short-sheeted. And a permanent ordinance is going  
20      to happen very soon.

21             Basically there are negligible  
22      environmental impact issues. And generally those  
23      things that are issues are feasible to avoid or  
24      mitigate.

25             This area is -- you can see the core

1 wind area in Tehachapi is right here. This is  
2 where all the development is. We have outlined a  
3 bigger area that actually comes down here. This  
4 is where the bulk of the additional development  
5 will go, supplemented by this up here. So that  
6 that's the area. And you can see there aren't  
7 very many people around. A lot of open land and  
8 that sort of thing.

9 The already established master  
10 environmental assessment covers that area. And  
11 that is enough to do at least 1000 megawatts of  
12 additional capacity. There is individual  
13 environmental assessment going on in this area and  
14 in this area. So there is significant  
15 environmental work in addition to the work that  
16 SCE has discussed that they've done on the  
17 transmission, which we think is a very  
18 constructive and positive step on their part.

19 This is a map of southern California  
20 that shows you the problem that a lot of people  
21 probably don't understand. These are the military  
22 low-level flight routes. We get jets coming over  
23 our head periodically at 500 feet, 200 feet. And  
24 these are routes that are established and being  
25 used. They can be manned aircraft, or they can be

1       like Tomahawk missiles and other objects.

2               So that there is a significant issue  
3       when you look at wind turbines with where they  
4       were in the early days. And if we look at where  
5       they're going, right down here is where turbines  
6       are going to be next year, in height. Which is  
7       pushing through the 500 foot elevation for the tip  
8       of the blades.

9               So that turbines are getting bigger;  
10       they're getting more efficient, more effective.  
11       These improve the economics. And these are the  
12       realities of doing cost effective development that  
13       you have turbines that are high. So, it's  
14       absolutely necessary for viable projects going  
15       forward that we resolve the issues with the  
16       military, and that we both can coexist.

17              This is a draft map, as you can see  
18       here. It's in very late stages of consensus  
19       forming with the military. This is a military-  
20       agreed-provided map. And essentially this is Kern  
21       County. This is the wind area, the existing wind  
22       area here. You can see where all the big turbines  
23       are right in this area. And this does a very nice  
24       job of mapping the potential sites that we have  
25       near term in the Tehachapi area. And these yellow



1 marks provide for a 400-foot tip height on the  
2 blades. And that allows for viable development at  
3 this day and age.

4 These areas over here are area that the  
5 military would like not to see anything. And they  
6 want to keep it below 200 feet. So that there's a  
7 give and a take to this.

8 Los Angeles County is down in here. You  
9 can see there is significant potential issues down  
10 there. This area right in here is where Tejon  
11 Ranch is forming Centennial City. And there's a  
12 lot of controversy with the military going on  
13 there. So that they're fighting. We're trying to  
14 work with them. They're trying to work with us to  
15 form a consensus situation. And we're making very  
16 substantial progress and we believe that we're  
17 essentially there.

18 So that this answers part of the  
19 question of is there a resource available that can  
20 be developed. And fundamentally you can answer  
21 the question this way. There is over, in my  
22 opinion, over 5000 megawatts of developable, good  
23 wind resource land in eastern Kern County.

24 In the existing MEA area, plus a planned  
25 program EIR area, it's likely to have over 4000

1 megawatts of developable good wind. This assumes  
2 that there would be efficient development of the  
3 land. There have been -- there's at least one  
4 project that's going forward right now that we  
5 think does not make good use of the land. But, in  
6 general, the Tehachapi area has done very very  
7 well in making effective use of the land and the  
8 great resource that is there.

9 And this assumes orderly development  
10 over five-plus years. It's not all going to  
11 happen immediately. But it will happen in an  
12 orderly way.

13 The ultimate potential area, potential  
14 of the Tehachapi area is significantly greater.  
15 And having seen the map a minute ago, you can see  
16 the importance of the military interference issue  
17 that further development, of course, is going to  
18 be dependent upon the military issues working  
19 effectively.

20 Basically then the second question is  
21 cost effectiveness. And cost effectiveness  
22 continues to improve. This is a substantial prime  
23 proven resource. Turbines in the ground.  
24 Turbines work. It's the one area that has really  
25 held up to its initial promise. There are a lot

1 of places that have been considered to be, gee,  
2 this is going to be a good wind site. Tehachapi  
3 was thought to be that. Tehachapi has proven to  
4 be that, and is still thought to be that. And  
5 that is very significant.

6 There are some significant things going  
7 on in the turbine industry. The next generation  
8 of turbines that will be out for late 2005, some  
9 of them probably earlier, are far more effective  
10 in the moderate wind resources. Essentially the  
11 manufacturers are doing multiple models of the  
12 same thing. It's like a Chevy and an Oldsmobile  
13 and a Cadillac. Only in this sense from a wind  
14 production standpoint.

15 And the three largest manufacturers have  
16 already announced major product with power curves  
17 that are very effective for these intermediate  
18 resources. There's a GE 2.3 megawatt 94 meter  
19 rotor diameter, Vestis and Gamesa all have  
20 machines in the 90, 94 meter rotor diameter range  
21 that are designed very effectively for optimizing  
22 these resources. So this is significant.

23 Another significant thing is the cost of  
24 capital fundamentally is dropping. The track  
25 record of the industry is improving. And, for

1       example, FPL is to be congratulated on the success  
2       of a very significant bond offering that went on  
3       this past year that gives a lower cost, long-term  
4       capital; and it's the sort of thing that lowers  
5       the cost of energy materially. And I would expect  
6       to see this, a larger base of the industry takes  
7       advantage of that same thing, going forward.

8               Further, we've all talked about the  
9       importance of the tax benefits that go on and the  
10      contribution they can make to the bottomline, but  
11      one of the problems is that there's been limited  
12      competition for those tax credits because of the  
13      structure of them.

14             In other words, there really are only a  
15      very few very large corporations that can make  
16      effective use of the tax credits. And as a result  
17      your effective cost of capital is not as efficient  
18      as it could be if these tax credits had a very  
19      broad base. Congress could fix this; they  
20      haven't. But some creative financial players have  
21      taken a very good stab at it. And there is now a  
22      significant increase in competition for these tax  
23      credits, tax benefits; and that fundamentally  
24      lowers the cost of capital.

25             And, you know, the fundamental thing is

1 increased experience, lower risk. And, you know,  
2 if you go back to the early days of 1986, '85, and  
3 say, you know, why didn't some other things  
4 happen, you can at least understand why some  
5 things didn't happen with all the machines that,  
6 you know, in those very early days, that were not  
7 reliable, or not as reliable.

8 Today, machines are extremely reliable.  
9 For example, Oak Creek achieves an availability of  
10 like 99 percent. We have a heart attack if it  
11 goes down to 98.5. And that kind of performance  
12 makes a major difference in the effectiveness of  
13 these projects, cost effectiveness going forward.

14 Now, the specific question is what are  
15 the physical limits on the existing transmission.  
16 And the significant thing is Tehachapi has  
17 substantial transmission right close by, either  
18 right at the Tehachapi wind area, or immediately  
19 adjacent.

20 We have the 66 kV SCE Legacy grid. We  
21 have the 230 kV Sagebrush line, which is a  
22 privately owned QF line. We have the 230 kV LADWP  
23 Owens Gorge/Rinaldi line. The 500 kV DC Pacific  
24 Intertie, Path 65 goes right past the wind  
25 turbines. Kisses them, just about, as it goes by,

1 and says, sorry, you can't get on board. It's a  
2 shame.

3 And then we have the 230 kV Big Creek  
4 corridor 10 to 15 miles away. And the 500 kV Path  
5 26 has -- one of its legs is 10 to 15 miles away.

6 Here is a simplified sketch of the  
7 transmission in the Tehachapi area which is  
8 reasonably accurate from a physical standpoint.  
9 So that you get a -- this is in reasonably close  
10 correct physical geometry. Here's the wind area,  
11 and you see you have Path 26 going up here; Path  
12 15 going north. The northern leg of Path 26 is  
13 right here. It's right inside the wind area.  
14 There's wind sites right there. So, that you  
15 have -- you're very close.

16 The dashed line is the Pacific Intertie.  
17 The blue line is Owens Gorge/Rinaldi. The yellow  
18 line coming up through here is the QF line. And  
19 it has significant potential that is sitting there  
20 to be used and to be effectively integrated. So  
21 that Tehachapi is close to the grid. It is  
22 horribly remote based on the Legacy system. And  
23 the Legacy system is all of this network of 66 kV,  
24 as we say it spreads across miles and miles of  
25 mountain and desert. Basically no overhead static

1 groundline for lightning protection. Wooden poles  
2 going across grassy fields subject to fire damage.  
3 And going along road rights-of-way without  
4 physical barriers against car damage.

5 So there is significant, you know,  
6 difference to the legacy system compared to all  
7 the rest of the transmission resources around  
8 here.

9 And essentially what we're saying is as  
10 the second step in the process to fix transmission  
11 in Tehachapi, look at these resources. Try to use  
12 them as effectively as you can. And that's a very  
13 significant thing.

14 One thing that I wanted to point out  
15 that is very significant. Here's Vincent down in  
16 the bottom, Antelope, Pardee over here. You have  
17 a Vincent to Pardee leg right now that is 230 kV,  
18 built for 500, could be upgraded to 500.

19 You have the leg that Edison is talking  
20 about, as they suggest as a phase one project, and  
21 we think they're very correct on that, that could  
22 be built as 500 kV potentially so that you end up  
23 with a long-term, you know, orderly, rational plan  
24 going forward, where you plan that probably  
25 Antelope and Pardee are going to be 500 kV

1       substations ultimately. And you structure  
2       everything for it and get your resources set up.

3               And the problem, a significant problem  
4       is that the path between Antelope and Vincent is  
5       clearly not set for the long-term future. Whether  
6       it's overloaded now or not, I don't know  
7       precisely. But it certainly is not set for the  
8       future. This is landlocked.

9               But you have tremendous transmission  
10       assets already in that corridor. Most of them  
11       single line on a pole. So that essentially by  
12       building Pardee to Antelope you create a diversion  
13       path so that you can take an Antelope to Vincent  
14       line out of service; you can upgrade it to double  
15       circuit or 500 kV to establish a long-term plan.

16              And I think one of the things that we  
17       feel very strongly is that the planning going  
18       forward needs to really look for the long term and  
19       plan now and get all those assets brought together  
20       so that you have an orderly, long-term plan.

21              Basically the existing 66 kV system, SCE  
22       states there is no added capacity on the line. My  
23       view is there probably is some added capacity, but  
24       in the overall perspective it's so small that it's  
25       something that in the perspective of what we're



1 looking about here, it should be ignored in this  
2 planning perspective, so that we don't divert our  
3 attention.

4 The Legacy system is a -- and I would  
5 say that I am sure that SCE does not agree with  
6 this -- but it's really, for many reasons, a  
7 substandard system in my view. And the  
8 performance of the line shows that. And it could  
9 be better and should be better. Customers deserve  
10 better.

11 So that I think that the planning that  
12 we're talking about in a rational first phase  
13 going forward will really take care of customers  
14 as well as it will generation.

15 The 230 kV Sagebrush lines, a private QF  
16 line. The ownership structure restricts its use  
17 of capacity. This line goes Vincent to Antelope.  
18 And then interestingly enough, it goes right near  
19 SCE's new -- planned new substations 1, number 2  
20 and number 3. So that you've got something that  
21 goes quite near it.

22 Very possibly you could use the  
23 Sagebrush line to replace substation 3 in the  
24 overall process with extreme efficiency and  
25 effectiveness. So these are one of the sorts of

1 things that should be looked at. It would  
2 probably take some upgrading of that line in that  
3 region. But going from Tehachapi to Sky River  
4 between those two substations there's probably  
5 around 600 to 800 megawatts that can be pulled out  
6 of the area near Sky River additional. And it  
7 just seems logical to use that right away since  
8 you're 80 to 90 percent of the way there.

9 On this line there is 320 megawatts  
10 installed and operating. There's apparently an  
11 additional 60 megawatts that will be coming online  
12 soon. To the best of what I know, the line is  
13 rated approximately 400 megawatts, FERC rated at  
14 400 megawatts. I believe that the rating of the  
15 line is either -- is being, or has been, or may be  
16 uprated to approximately 625 megawatts.

17 And if we look at full utilization of a  
18 double circuit 230 kV line along that path with  
19 aggressive VAR support, it's 1400 megawatts. So  
20 there's somewhere in the order of as much as 1100  
21 megawatts of additional capacity, maybe 1000 extra  
22 megawatts maybe, under optimum conditions that is  
23 available on that line. And we'd sure like to see  
24 this line come into common use.

25 The 230 kV Owens Gorge/Rinaldi line

1       probably has 270 megawatts of capacity available.  
2       It has a core use on intermittent hydro. The 230  
3       megawatt Pine Tree project is in environmental  
4       review. This is in the Tehachapi area. It's and  
5       LADWP-owned project. This is an LADWP-owned line.  
6       So, it's outside of the jurisdiction of the  
7       regular planning process. But there's a lot of  
8       asset here. And there's rumors that there might  
9       be another 150 megawatts of LADWP project coming  
10      along. We'll see what happens.

11               But again, this argues, as a rational  
12      transmission process, that this line be planned,  
13      be integrated if we're going to effectively use  
14      the resources of the state. We don't have a  
15      histogram of this line.

16               Basically Path 65, the Pacific Intertie,  
17      500 kV line, comes right past the wind turbines.  
18      It's a 3000 megawatt line. The question is, is  
19      there any effective capacity that can be utilized.  
20      Not clear. There's a big cost to tapping onto the  
21      line. But as an uplink only, a single directional  
22      interconnect. Might be feasible. And since it's  
23      a 3000 megawatt line, it's really something that  
24      needs to be carefully looked at.

25               This is the histogram of the line. And

1 basically there's a lot of capacity available.  
2 But the question is, can the planning techniques  
3 work or not. I'm a strong advocate of trying to  
4 take advantage of these unused capacities. I  
5 think I see ways to do it in the Tehachapi area.  
6 And I think the planning process needs to look at  
7 this very carefully going forward. These are  
8 valuable resources and need to be taken care of.

9           There is significant energy storage  
10 potential in the Tehachapi area that is as good or  
11 better than any energy storage that is being  
12 proposed statewide at this point. So there is  
13 significant potential.

14           We have not pursued the energy storage  
15 to conclusion, although we have organized a lot of  
16 development on it. We've not taken it to  
17 conclusion because the rules don't readily  
18 facilitate it. It's a difficult process, and we  
19 think that better, lower cost energy storage is  
20 right around the corner. So that to go with the  
21 pump storage is not advantageous at this point.

22           The Big Creek corridor, it's been talked  
23 quite a bit. I think interestingly enough my  
24 points were quite similar to what the others have  
25 talked about. So it is an opportunity to be

1 looked at; needs to be looked at.

2 The 500 kV Vincent to Midway Path 26.

3 This is an extremely significant path to look at  
4 for a number of reasons. We have looked at it,  
5 number one, because of the question, okay, we can  
6 use the SCE from Vincent to Tehachapi, and then  
7 link over to Midway, and we've got a parallel path  
8 for route 26.

9 There's another very significant reason  
10 to look at this. And that is that PG&E is one of  
11 the most significant ones in need of additional  
12 renewable energy capacity. Tehachapi wind really  
13 needs to be able to get to PG&E if, under the way  
14 that the RPS program is laid out now, is going to  
15 function efficiently. So that we must get  
16 Tehachapi wind to PG&E, must be able to do that.

17 If you look at the histograms it looks  
18 like there is some potential and some problem,  
19 particularly when you look at the planning  
20 analysis for 2008 on Path 26. That as you look  
21 into the future the situation gets more and more  
22 bleak. And there is serious question in my mind  
23 if Path 26, as it currently stands, is suitable to  
24 take the SCE planned transmission from Tehachapi  
25 south to Antelope or to Vincent, and then go north

1 to PG&E.

2 I think that this needs to be looked at  
3 very hard. It's hard to get transparent data.  
4 This is the best data that I can find. And this  
5 leaves serious question as to what the real  
6 situation is.

7 This is Path 15's histogram. And this  
8 is very significant. Because right down here, if  
9 you look at the south to north flow, we've got a  
10 home run. Essentially we've got absolutely all of  
11 the transmission capacity that's needed to get  
12 Tehachapi wind from Midway north, way north into  
13 PG&E's territory; up past Los Banos.

14 So that histogram right down there is  
15 extremely significant. And it says that one of  
16 the main questions is fundamentally answered. The  
17 question of Path 26 and the question of how you  
18 get out of Tehachapi efficiently is not. And  
19 this, again, is discussing phase two, not phase  
20 one.

21 Basically I think how should the  
22 resource of Tehachapi be connected. I think the  
23 answer is very simple. Without further delay.  
24 And I think at this point any answer is a good  
25 answer. Any delay is a bad answer. And it is

1 mandatory that action be taken, and that wire be  
2 put into the air, the capability be made  
3 available. This is a resource that is so large  
4 that any expedient solution to get the thing  
5 broken open is worthwhile.

6           The Pardee to Antelope to Tehachapi  
7 number one has many benefits. I think that some  
8 of the most important benefits have not been  
9 talked about. But there here, you know, to be  
10 considered. And SCE would not have done the  
11 environmental studies that they have done if they  
12 didn't see a need beyond renewable resources in  
13 Tehachapi.

14           So we don't accuse SCE of being selfish,  
15 but they are smart. They think of balanced needs,  
16 they consider lots of things. And it's clear that  
17 they have thought out very important balancing  
18 needs and it's clear that Pardee to Antelope to  
19 Tehachapi is really a badly needed step. And that  
20 needs to happen without delay.

21           Here's the map that Robert showed you  
22 with a little bit of addition. I've got some  
23 additional white on this map. And it turns out  
24 that this upper white is a pipeline corridor; the  
25 right-of-way already exists. Lo and behold, you

1 have right-of-way from Tehachapi to almost to  
2 Midway, which is very interesting.

3 Can it be used? That part probably can.  
4 That part may be difficult. But there's another  
5 path right over here with some variations. And  
6 that isn't placed exactly right, but there's a  
7 path along there that can be used. So that there  
8 are some things to think about in the way of  
9 right-of-way and feasibility to do some additional  
10 things, so that as this is looked at, you need to  
11 think carefully about these additional  
12 capabilities and feasibilities.

13 But you can see the significant  
14 facilities that SCE is planning, you know, from  
15 Vincent to Tehachapi and Pardee to Tehachapi. And  
16 that it's not a big additional step to go beyond  
17 to MacGunden is right here. And you go, you just  
18 up and over to Bakersfield. And that moves you  
19 right into the PG&E system. There's transmission  
20 right-of-way going from Bakersfield and Kern  
21 substations over to Midway. And, again, looks  
22 like there's things that can be done there.

23 If you want a direct route to Midway; if  
24 you don't want to stop at MacGunden, you can go  
25 right along here. And it looks like that's a good



1 right-of-way.

2           These lines were not drawn on here  
3 casually, although they're not placed perfectly.  
4 It turns out that most of this path along here we  
5 believe that there's a very plausible way to get  
6 the right-of-way, to get down very close to  
7 MacGunden. So that we think that these are all  
8 plausible paths.

9           Also, if you look at the military  
10 interference map, while it's done for wind parks,  
11 all of this area out here is high level, is  
12 unrestricted flight path. So that the military is  
13 not there. This is all very clean.

14           The path going down here, we think that  
15 most of this actually, at least down to here is  
16 actually pretty clean. We think there's a few  
17 issues, but we think they're minor and we think  
18 that some very minor discussion between the  
19 military and SCE can find some clean paths to get  
20 across there.

21           So we think that the transmission is all  
22 plausible. And, of course, would be interested to  
23 hear what the military guys think. But, from our  
24 perspective of just looking at it very hard, it  
25 looks like it's very plausible.

1           Effective integration, might involve the  
2 following things. Integration with Big Creek;  
3 integration with Path 26; integration with  
4 Sagebrush; with Owens Gorge/Rinaldi; Pacific  
5 Intertie; or effective use of existing or adjacent  
6 right-of-ways.

7           And that this need to be thought out,  
8 carefully planned, and the point that Pat raised  
9 about five years limit on use of owning right-of-  
10 way is, I think, a very significant and serious  
11 limitation.

12           And if that is a meaningful limitation,  
13 I think that the wind industry in Tehachapi would  
14 be very interested in working with Edison to see  
15 if there isn't some way we can tie up some right-  
16 of-way for lines. We have some thoughts on how  
17 that might be done.

18           As the transmission is planned you need  
19 to make use of the effect of other tools in the  
20 tool box. Distributed dynamic bars. As opposed  
21 to facts, distributed dynamic VARs are a part, and  
22 integrated with the wind turbines. And they can  
23 be extremely cost effective and efficient, and  
24 very effective in what they do for the system.

25           Dynamic rating of conductors need to be

1 explored. And I think that when you combine  
2 dynamic ratings of conductors with distributed  
3 dynamic VARs, that you get some very significant  
4 benefits.

5 Energy storage needs to be integrated  
6 with transmission. It, I think, will prove to be  
7 cost effective and reduce the footprints  
8 significantly; at least by two to one. And things  
9 like using curtailment a few percent of the time  
10 can reduce the transmission footprint, as well as  
11 additional use of conductors.

12 Thank you very much.

13 PRESIDING MEMBER GEESMAN: Thank you,  
14 Hal.

15 MR. KONDOLEON: Thank you so much.  
16 We're going to take a lunch break now, as  
17 scheduled. And we'll come back at 1:30 and begin  
18 with the presentations on Salton Sea; follow that  
19 up with the roundtable discussion.

20 Just for your own scheduling purposes,  
21 I'm anticipating that we will run likely anywhere  
22 from a half hour to an hour over.

23 We originally planned to have the  
24 workshop end by 3:00. It could be running 3:30 to  
25 4:00. So if you can make your plans accordingly,

1       that would be good.

2               Thank you. We look forward to seeing  
3       you this afternoon.

4               (Whereupon, at 12:20 p.m., the workshop  
5       was adjourned, to reconvene at 1:30  
6       p.m., this same day.)

7                       --o0o--

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

## 1 AFTERNOON SESSION

2 --o0o--

3 MR. KONDOLEON: Let me just refresh  
4 everyone's memory as to the schedule of events for  
5 the rest of today. We're going to start with the  
6 third set of presentations from the morning  
7 session. That will be a focus on the Salton Sea  
8 area.

9 After that we will have a roundtable  
10 discussion. We have a number of folks that have  
11 been identified as participants in the roundtable  
12 discussion, and those are noted on our agenda.

13 If there are other folks in the audience  
14 that would like to participate, if you can come  
15 and either grab myself or Kristy Chew over here on  
16 the side, in the next few minutes, we'll make sure  
17 that you get added to the list.

18 At the conclusion of the roundtable  
19 discussion we'll move on to two staff  
20 presentations. The first will be on the Southern  
21 California Transmission Corridor Study, a proposed  
22 study that the staff wants to discuss.

23 And then we will continue our discussion  
24 on the development of a transmission vision for  
25 California.

1           Is that any better? I'm surprised you  
2           can't hear me with my voice.

3           Again, this afternoon we'll have a  
4           discussion on the corridor study proposal, and  
5           then a continuing discussion of our development of  
6           a transmission vision for California.

7           We've allocated some time for public  
8           comment. And then we'll have also some closing  
9           remarks from Commissioner Geesman.

10          With that being said, why don't we  
11          just -- is that better? Okay. Do you need me to  
12          repeat myself? Excellent. Okay.

13          Well, let's get started with our final  
14          set of presentations on the Salton Sea. And I'm  
15          pleased to welcome Juan Carlos Sandoval from the  
16          Imperial Irrigation District.

17          MR. SANDOVAL: Good afternoon, ladies  
18          and gentlemen.

19          (Pause.)

20          MR. SANDOVAL: Well, I'll continue with  
21          my presentation with the handouts, using the  
22          handouts.

23          IID, as you know, is the host control  
24          area for up to 410 megawatts of geothermal  
25          generation. We are located in the southeast

1 corner of California. And we have up to 340  
2 megawatts of existing geothermal resources in the  
3 Salton Sea area, which is the area that we're  
4 going to talk about today.

5 Also we have another area, another  
6 geothermal field located in the East Mesa area  
7 with about 90 megawatts of effective generation  
8 that is being wheeled to Edison, Southern  
9 California Edison. As well as another 80  
10 megawatts in the -- very close to the border,  
11 about eight miles from the border. And they're  
12 located in Heber, California.

13 All this energy is wheeled to IID's  
14 transmission system to Southern California Edison  
15 currently.

16 Back in 1985 IID and the Independent  
17 Power Producers in our control area entered into  
18 an agreement funding a construction agreement to  
19 construct the 230 kV collector system, with the  
20 purpose of accommodating existing and future  
21 geothermal resources.

22 In the drawing you can see that there's  
23 a couple of -- two 230 kV lines from the center of  
24 the drawing, in the bottom a substation called  
25 Highline. And this will take you to a middle

1       substation at the center of the drawing, which is  
2       the Midway substation.

3               And will continue to Coachella Valley;  
4       and from Coachella Valley switching station it  
5       will get to the Mirage, Edison's Mirage-Devers  
6       substations.

7               There's spare capacity in this  
8       transmission system, in the transmission lines  
9       between Highline and Midway. We have 800  
10      megawatts of total transmission capability.  
11      There's also 1600 megawatts of total transmission  
12      capability because we have a bundle conductor, 230  
13      kV.

14              And currently the bottleneck for  
15      additional exports is pretty much between  
16      Coachella Valley and Mirage-Devers because we have  
17      single conductor per phase.

18              (Pause.)

19              MR. SANDOVAL: Talking about the  
20      existing physical transmission constraint to wheel  
21      additional power out of IID, what we can find  
22      right now is the Path 42, which is the path  
23      between IID and Edison, is currently fully  
24      allocated. The 600 megawatt south to north  
25      allocation is fully subscribed. So, we need to



1       pretty much relieve that constraint by building  
2       the -- or upgrading the path.

3               The other situation -- as well as the  
4       situation that possible transmission constraints  
5       or congestion west of Devers, Mirage-Devers. The  
6       other situation that we have currently is the  
7       transmission congestion at the Imperial Valley  
8       substation.

9               Right now the current situation is  
10       recently 1650 megawatts of combined cycle  
11       generation were installed a couple of years ago,  
12       at the border. And no additional transmission was  
13       built, other than the interconnection to the power  
14       plants side of the border. So right now we have a  
15       situation where congestion has been handled  
16       through operation (indiscernible). And I think  
17       the total generation output is limited, I think,  
18       up to 1100 megawatts; no more than 1100 megawatts.

19              So what we could see right now is  
20       additional exports from the geothermal fields in  
21       the Salton Sea area will be limited, operationally  
22       limited by transmission congestion at IID, as well  
23       as a combined cycle plant was recently installed a  
24       couple years ago in Blythe. And with limited  
25       transmission. So delivery from the area to Blythe

1 is also limited by transmission constraints.

2 As you can see this is IID's control  
3 area; it's one of the few control areas in the  
4 State of California. We neighbor with -- neighbor  
5 utilities is APS in the western to the east.  
6 Mexico to the south. San Diego Gas and Electric  
7 and Southern California Edison to the west. MWD  
8 to the north.

9 Our main transmission system is  
10 conformed by 161 kV transmission system that  
11 surround the Salton Sea. Also we have a 230 kV  
12 connection with Imperial Valley. And connection  
13 to the Knob substation as well as a couple of 161  
14 connections with Western (indiscernible.)

15 The collector system, the one I  
16 mentioned that was funded through this  
17 construction agreement, runs from the Highline  
18 substation to Midway, Midway-Coachella Valley,  
19 north to SE, Devers, Mirage-Devers.

20 One of the things that is important to  
21 note is in comparison with the Tehachapi project,  
22 you know, a substantial amount of studies have  
23 been done for this project. Up to 2200 megawatts  
24 of additional geothermal resources, barely almost  
25 no studies have been done in this area since the

1       ones we did recently for the addition of the 185  
2       megawatts Salton Sea 6 unit, that IID is going to  
3       acquire, you know, enter in a long-term power  
4       purchase agreement with Cal Energy.

5               So, what we have, or we are going to  
6       present is 100,000 feet overview of what we  
7       believe is a transmission constraint or options  
8       that we have to wheel this power out of the  
9       system.

10              In prefer interconnections, you know,  
11       since the collector system was envisioned with  
12       that purpose of taking -- wheel power out to  
13       Edison, there's spare capacity. We will leave  
14       that for additional units, unit 7, 8, and up to 8.  
15       It can be interconnected to the Midway substation  
16       through all the 230 kV transmission lines. And  
17       from there wheel it to Coachella Valley. And from  
18       here, obviously the operating of this tie is about  
19       35 miles of transmission line, double circuit. It  
20       can be bundled to increase the transmission  
21       capacity.

22              And this is in combination with any  
23       looping of the existing PV-Devers or the new  
24       project, 400 kV project, such as PV-Devers number  
25       two, or Desert Southwest, to be tapped or looped

1 in it to Coachella Valley substation, to back up  
2 deliveries to the Edison ISO area.

3 We believe that this upgrade can handle  
4 up to the 600 megawatts of additional generation  
5 resources on the phase one. And this is in  
6 combination with another project which will be  
7 new 230 kV circuits, double circuit probably, from  
8 Highline to El Centro, El Centro, Imperial Valley.

9 This is an existing line. We have a  
10 transmission line that can be upgraded. This is  
11 something that we need to analyze.

12 These projects can be staged to  
13 accommodate a phased development. And also  
14 additional geothermal exports from Mirage-Devers  
15 is something that we have identified by increasing  
16 the exports from the current 550, 560 megawatts to  
17 additional 600. SCE operations might be affected,  
18 so I can foresee some regional impacts in Edison's  
19 territory. As well as we tried to connect Midway  
20 all the way down to IV. Some impacts or  
21 additional transmission will have to be planned  
22 for that 500 kV line out of Imperial Valley.

23 The foreseeable future, transmission  
24 line needs to accommodate to phase one 600  
25 megawatts. Again, the 230 kV Coachella Valley,

1       Mirage-Devers needs to be upgraded to conduct  
2       interface.

3               And also we are envisioning this  
4       interconnection with the 500 kV line that is going  
5       to be very close to Coachella Valley. Also, and  
6       this high level -- operating of existing 161, 230  
7       kV transmission could be -- will have to be  
8       determined.

9               Also, I am repeating myself here, the El  
10       Centro switching station to Highline 230 kV  
11       interconnection might be necessary to accomplish  
12       this.

13               PRESIDING MEMBER GEESMAN: When you talk  
14       about upgrading your existing 161s, which of your  
15       161s?

16               MR. SANDOVAL: Let me go back to the  
17       drawing. Well, we have currently this Highline-El  
18       Centro line, we have a 92 kV and a 161 kV line in  
19       the lattice tower, sharing. And we believe that  
20       this can be upgraded.

21               Also, for this additional 600 megawatts  
22       we need to determine system impact, so another  
23       possibility is to upgrade this 161 kV line from  
24       the Bannister substation to Coachella Valley to  
25       create a backup.

1               PRESIDING MEMBER GEESMAN:   Okay.

2               MR. SANDOVAL:   This is for the phase  
3               one.

4               PRESIDING MEMBER GEESMAN:   Right.

5               MR. SANDOVAL:   For phase number two,  
6               which will be additional over the 600 megawatts of  
7               new geothermal resources to up to the 2200, the  
8               500 kV line that San Diego is proposing to run  
9               from Imperial Valley to SCE's Ramona or Escondido  
10              could be used to -- can be looped in and out into  
11              this new switching station that we call Bannister.

12              Also, a new 500 kV line from Midway to  
13              Bannister might be required to handle the up to  
14              the 2200 megawatts of new generation.

15              Let me just point at the -- this  
16              Imperial Valley to San Diego line, you know, it  
17              could be routed close to the Bannister substation.  
18              I think right now it is considered a path that is  
19              close to our existing 92 kV line, the R line.   So  
20              but this can be looped in and out into the  
21              Bannister.   And to handle the amount of  
22              generation, new generation, a 500 kV line can be  
23              completed from the Midway station or from the  
24              Bannister up to Coachella Valley and connect with  
25              the 500 kV system; or loop in and out the 500 kV

1 system from Coachella Valley to Mirage-Devers.

2 In our conclusions, obviously as I said  
3 before, you know, we need to perform the system  
4 analysis, power flows and stability to identify  
5 the local and regional system impacts and the most  
6 effective transmission system operates.

7 IID's long-term transmission expansion  
8 plans to incorporate this geothermal additions  
9 needs, and this will have to be through an OATT  
10 request. Also, and this is the portion where we  
11 will require your help and support to facilitate  
12 the transmission enhancements, this through the  
13 means of facilitating the environmental and land  
14 use and archeological, BLM. We have some  
15 transmission lines that go through tribal lands,  
16 so this will be required to facilitate that  
17 enhancement.

18 Any questions?

19 PRESIDING MEMBER GEESMAN: Are you a  
20 lead agency for CEQA purposes for all of your  
21 projects?

22 MR. SANDOVAL: We have been, right.  
23 We're currently CEQA lead agent for the Desert  
24 Southwest, but normally, yes.

25 PRESIDING MEMBER GEESMAN: Okay. And

1       also the existing 161 line from it looks like  
2       either Nyland or Midway to Blythe, I see on one of  
3       your maps you had that yellowed in as an upgrade.

4                Could you explain the importance of that  
5       from a geothermal development standpoint?

6                MR. SANDOVAL: Well, since we don't know  
7       exactly where this geothermal power is going to  
8       go, deliveries can be down to southern California,  
9       to the San Diego area; to the north to Edison,  
10      LADWP, PG&E, any area in southern California. But  
11      also this power can be wheeled to the Arizona area  
12      if requested.

13               PRESIDING MEMBER GEESMAN: Thank you.

14               MR. KONDOLEON: Thank you, Juan Carlos.  
15      Next we'll have Dave Korinek from San Diego Gas  
16      and Electric.

17               MR. KORINEK: The technology up there at  
18      the podium is kind of scary, so I think I'll stay  
19      here and ask Kristy to run my slides for me.

20               PRESIDING MEMBER GEESMAN: Good choice,  
21      Dave.

22               MR. KORINEK: It might be safer.

23               MS. CHEW: And it looks like the laptop  
24      needs to be warmed up again, so bear with me.

25               (Pause.)



1           MR. KORINEK: The presentation was also  
2       on the front table coming in, so I imagine that  
3       most of you have it.

4           Rather than bring a picture of my  
5       grandkids, I almost brought my grandkids with me  
6       today. But, wasn't sure what I would do with them  
7       for the whole morning.

8           The presentation that I brought is a  
9       little different in flavor than what we've heard  
10      from the other participants this morning, in that  
11      they've talked about getting power out of a  
12      generation-rich area, and for SDG&E the shoe is on  
13      the other foot. We're looking at getting external  
14      renewable resources into a generation-deficient  
15      area. So change your paradigm here for the next  
16      few minutes.

17          Let me talk about the current import  
18      limits we have and how it relates to renewable  
19      resources. Path 44, which is the south of SONGS  
20      path, which is the connection between Edison and  
21      San Diego along the coast and San Onofre, is good  
22      for 2500 megawatts. And with our current  
23      portfolio of contracts, CDWR allocation primarily,  
24      as well as our ownership share of SONGS, that's  
25      fully allocated. So there's no additional room

1       there to import any renewables.

2               Our southwest power link, which comes  
3       across the southern edge of Juan Carlos' system,  
4       following the Mexican border through the Imperial  
5       Valley and into San Diego is also fully  
6       subscribed. And I should say quite over-  
7       subscribed. It is a very highly congested path  
8       and can deliver up to maximum 1120 megawatts  
9       today. So, again, very little potential there for  
10      new deliverability for renewables.

11             There are two projects, however, that  
12      are on the horizon that could possibly solve that  
13      problem. And I just want to address those briefly  
14      in my presentation today, and make some  
15      suggestions on how the Commission and other  
16      stakeholders can support those projects.

17             One is our Imperial Valley to San Diego  
18      500 kV expansion project. Sometimes called ISEP.  
19      And this is a new 500 line from the Imperial  
20      Valley in parallel with the existing 500 southwest  
21      power link into the San Diego area. Potentially,  
22      we believe, capable of bringing another 1400  
23      megawatts of resources into San Diego.

24             And the other potential new project is  
25      the Lake Elsinore pumped storage project,

1 otherwise known as LEAPS, which is, as many of you  
2 know, a proposal to build an upper reservoir in  
3 the mountains above Lake Elsinore and install a  
4 pumped hydro generation facility there, about 450  
5 megawatts if I recall correctly.

6 And we believe, based on some very  
7 preliminary work that we've had a chance to look  
8 at, that could possibly provide 1000 megawatts of  
9 import capability into the San Diego area. But  
10 that is before any of that pumped hydro generation  
11 heads south. So once you take the hydro  
12 generation output from LEAPS, out of that  
13 thousand, the remaining capability obviously is  
14 going to be much less than 1000.

15 We've just gone through a new round of  
16 solicitation in the RPS and I did not include  
17 information from that new solicitation from the  
18 renewables that were internal to my service area.  
19 What I did in this slide was just look at the bids  
20 that were external to my service area that bear on  
21 this question of renewable import.

22 And this is basically how that latest  
23 solicitation pans out. We've got roughly 3000  
24 megawatts of potential bids that came in from  
25 outside of our service area; and those were 200

1 megawatts of solar and 2400-some megawatts of  
2 wind. Both of those spread around in various  
3 parts of the Southern California Edison service  
4 area. And then lastly, the 600 megawatts around  
5 the Salton Sea.

6 So, how much of those are deliverable  
7 over the existing import paths that we have, the  
8 next row I address that. The solar in Edison,  
9 zero percent of that would be deliverable at least  
10 through 2009. Beginning in 2010 the CDWR contract  
11 portfolio does begin to expire. and so those  
12 could begin to fill in for some of the CDWR  
13 resources that expire in that timeframe.

14 Likewise, the wind resources in the  
15 Edison area, exactly the same situation. But they  
16 could start to come in at around 2010.

17 Salton Sea generation, given the  
18 constraints that we have on the southwest power  
19 link today, none of that generation can get to  
20 SDG&E, even after the CDWR contracts expire. That  
21 path is not, per se, being used for the CDWR  
22 contracts. So that does not provide a solution  
23 for the Salton Sea.

24 The solutions that Juan Carlos talked  
25 about might possibly deliver that energy to Edison

1       also don't provide a means for SDG&E to receive  
2       that energy. That would be possibly a solution if  
3       Edison were the customer and could receive that  
4       energy at the Devers area. But if SDG&E were the  
5       customer it would have to come through some other  
6       path. That would not get it to us.

7               And so what I've done in the next few  
8       rows is look at the impact of those two projects  
9       that I mentioned a minute ago, the ISEP, IV-San  
10      Diego project, and the LEAPS project. The ISEP  
11      project would be the solution for this geothermal  
12      in the Salton Sea area. It could easily  
13      accommodate 600 megawatts, 100 percent of that,  
14      and bring that into the San Diego service area.  
15      If, in fact, that was the plan, we might want to  
16      look at higher ratings for the project than 1400  
17      because the 1400 was based basically on SDG&E's  
18      reliability needs. If we want to layer in the  
19      geothermal deliveries on top of that, we might  
20      want to rethink the thermal rating of the IV-San  
21      Diego project. But it is capable of delivering  
22      all of that 600 megawatts.

23              The LEAPS project would be a clear  
24      solution for the resources that we got in the  
25      latest RPS, expressions of interest I should say,

1 from the Edison service area. Those renewables  
2 could come across that LEAPS corridor.

3 And I took a stab at some percent of  
4 what would be deliverable there, but that's just a  
5 swag. Obviously the 200 megawatts of solar could  
6 easily come across that, even on top of the 400-  
7 and-some megawatts of pumped hydro. But then the  
8 remaining 2500 megawatts of wind would clearly  
9 out-stress that limited capability on the LEAPS  
10 interconnection. And so maybe a quarter or some  
11 more of that, if you could use some of the SONGS  
12 corridor, as well, may be deliverable. May be a  
13 little more, depending on how much other resources  
14 trail off from the existing portfolio.

15 This slide shows the Anza Barrega Desert  
16 State Park area with the Salton Sea region to the  
17 right side of the slide. And so that is the  
18 geothermal resource area that we've been talking  
19 about today, just to the right.

20 And it shows, coming across the middle  
21 of the slide, across the park area, a dotted line  
22 from the left to the right. And then a solid dark  
23 line from the middle going to the left. Those are  
24 existing low voltage transmission facilities.

25 The dotted line is an existing Imperial

1       Irrigation District 88 kV line. The solid line is  
2       an existing SDG&E 69 kV line. Both of those lines  
3       are used for local subtransmission supply.

4               So that is an existing corridor that  
5       crosses the Anza Barrega Desert State Park. When  
6       I talked here at the workshop in April I mentioned  
7       that one of our top priorities at SDG&E is to  
8       secure a utility corridor across the Anza Barrega  
9       Desert State Park. And some people asked me  
10      afterward, is it possible to get electric lines  
11      across the park. And, in fact, as the slide  
12      shows, there already are electric lines crossing  
13      the park. And it would be our primary goal to  
14      follow that same corridor and just convert it from  
15      a lower voltage use to a higher voltage use, or a  
16      joint voltage use, rather than seeking a new  
17      corridor. So that's what SDG&E has in mind.

18             And you can see across the bottom of  
19      this slide, as well, a solid dark line; it's the  
20      current southwest power line which we talked  
21      about. It's fully subscribed and actually heavily  
22      congested.

23             This we stole from a presentation that  
24      LEAPS made, I believe at the PUC a couple months  
25      ago. And it shows their corridors coming down

1 from the Edison system into the San Diego system.

2 Right through the center of this slide  
3 you can see that there's like a bifurcated option  
4 at the top end. And again, there's a little  
5 bifurcated option at the bottom end. But one  
6 single corridor for the middle section there.

7 And this is in the very western edge of  
8 Riverside County, coming into the very north edge  
9 of San Diego County. And would connect through  
10 the plant location, which is there in the  
11 wilderness area, or I shouldn't say wilderness,  
12 the U.S. Forest Service area. And connecting on  
13 the north to existing Edison 500 kV transmission;  
14 and on the south to exiting SDG&E 230 kV  
15 transmission.

16 This is the LEAPS corridor that I  
17 mentioned we think could carry up to 1000  
18 megawatts in the best case scenario. And so this  
19 is another potential corridor for deliveries from  
20 the north, parallel with the SONGS  
21 interconnection, which is off to the coastal side  
22 of this slide. This is currently filed, as many  
23 of you know. The sponsors have filed an  
24 application for the plant and the interconnections  
25 with FERC. And so there's an opportunity for



1 anyone to intervene if you choose to sponsor or I  
2 should say choose to support this kind of an  
3 interconnection, an opportunity to intervene at  
4 FERC and voice your support for this kind of  
5 corridor.

6 Likewise, with the Anza Barrega Desert  
7 State Park crossing. The state park agency's  
8 currently going through its master planning  
9 process. And again, any expressions of support  
10 for including a utility corridor of the type that  
11 I've discussed would be very helpful from any  
12 party.

13 So, our action plan, then, for import of  
14 renewables is first of all to work diligently on  
15 obtaining that corridor through the Anza Barrega  
16 Desert State Park in order to provide a route for  
17 the new 500 line.

18 Secondly, to encourage support for the  
19 LEAPS Forest Service routing that would provide a  
20 corridor from north to south, from Edison to San  
21 Diego, and a way for some of those renewables out  
22 of Tehachapi and other locations around the Edison  
23 system to find their way to customer load in San  
24 Diego.

25 And lastly, our long-term plan would be

1 to identify some way to connect those two pieces  
2 together. In other words, to connect the western  
3 end of the new IV to San Diego 500 line to the  
4 southern end of the LEAPS 500 line so that, in  
5 fact, they would create one continuous path with  
6 substations, of course, along that route. But one  
7 continuous path from the geothermal resources in  
8 the Imperial Valley all the way into the heart of  
9 the Edison system. And dropping off load in the  
10 San Diego service area along the way.

11 So that's our current 50,000 foot view  
12 of delivery of renewables into San Diego.

13 PRESIDING MEMBER GEESMAN: Thanks, Dave.

14 MR. KONDOLEON: Thank you, Dave. The  
15 final presentation on Salton Sea will be made by  
16 Dale Stevens from Cal Energy.

17 MR. STEVENS: Good afternoon. I'm Dale  
18 Stevens with Cal Energy. And I'm pleased to be  
19 here today. I should have taken David's wisdom  
20 there and let someone else run the controls up  
21 here, but I will try to do that.

22 As Jonathan mentioned earlier this  
23 morning, we have a significant resource in the  
24 area of the Salton Sea with potential up to 2300  
25 megawatts of geothermal there to be developed.

1           Currently we have 340 megawatts of  
2           existing resource that is generating. We have  
3           under development the Salton Sea 6 which recently  
4           has been approved at 185 megawatts. And we  
5           believe that we have another 600 megawatts of  
6           proven resource there at Salton Sea to be  
7           developed.

8           As with any of the projects there, and  
9           you've already heard from others, as to some of  
10          the regional congestion, some of the barriers that  
11          we have to overcome in that regard. As well as  
12          some of the need within IID's system in order to  
13          get the energy out of there.

14          Since Juan Carlos Sandoval already has  
15          addressed a lot of the Salton Sea stuff, I'm going  
16          to address a little bit more on the regional side  
17          here. We've already talked about Path 42. Our  
18          plant is located right here at the tip of the  
19          Salton Sea. Path 42 is to the north; and then  
20          Miguel and the transmission along the southwest  
21          power line is to the south and west of us there.

22          Those are the primary congestion areas  
23          that prevent us from being able to reach markets  
24          at this time. Now, you've already heard solutions  
25          to some of those. And I'm not going to try to

1 repeat that at this time.

2 But one of the things that we have to be  
3 assured of is that we can get our power to the  
4 markets. And the challenge that we face is trying  
5 to make long-term plans in this particular  
6 environment.

7 As I had mentioned earlier, we have 600  
8 megawatts that we're looking at as potential  
9 development in the 2010 timeframe. Earlier plans  
10 we had talked about starting that development of a  
11 plant in 2009 with two additional plants every  
12 other year after that. However, if they do  
13 expedite the process, we could have as much as 600  
14 megawatts on the ground in 2010.

15 My diagram here repeats some of what  
16 Juan Carlos presented to you just a moment ago.  
17 Although I, having not consulted with him, have  
18 come up with I guess some very similar type items.  
19 I had some differences in what I had proposed.

20 Definitely from the geothermal area  
21 there I had looked at the possibility of  
22 converting this line to 230 kV which is similar to  
23 what Juan Carlos has mentioned. Recognizing that  
24 we also needed to increase Path 42 from 600  
25 megawatts to a higher level we could get out of

1       there.

2               One of the things that is, I guess, a  
3       concern to us is that if the full 600 megawatts  
4       were to go up this line, we would be very  
5       dependent upon a single line. And if something  
6       happened to that, we would not only have at risk  
7       this new 600 megawatts, but we would have at risk  
8       some of our existing geothermal.

9               And so that makes it attractive to have  
10       a second path. Even having a second path and  
11       having it dependent upon the area up around Devers  
12       there, still gives us a little bit of concern in  
13       that if congestion develops in that area that we  
14       could be constrained in selling power.

15              Therefore, the alternate that was talked  
16       about, how the Imperial substation down here with  
17       the 500 is attractive from the standpoint of  
18       delivering future power from that area. And  
19       especially as we begin to take a look at future  
20       development, developing that other 1100, 1200  
21       megawatts beyond 2010.

22              I had attempted to address most of the  
23       other questions that were in the workshop today  
24       here, but at a very high level, since the  
25       transmission is really more the arena for the

1 others here in the audience. We would need the  
2 transmission support in the near term for the 600  
3 megawatts development. As far as whether that can  
4 be staged would depend upon if it was going to be  
5 developed as a 200 -- three 200 megawatt machines,  
6 or whether it would all be developed at once. I  
7 doubt if staging is really practical if we're  
8 trying to have the units operating by 2010.

9 As far as the new transmission, as I was  
10 looking at it, and I think it's been confirmed  
11 here today, that a lot of the lines and corridors  
12 are existing and we would be looking at upgrades  
13 to those corridors. It's probably inevitable that  
14 there would be some new corridors that would be  
15 required.

16 One of the things that we would do when  
17 it got a little bit closer in is that we would  
18 request an interconnection study from IID. And at  
19 that time many of the outstanding issues that we  
20 have would be answered as far as the transmission  
21 is concerned in the local region. We have  
22 provided responses to the RPS solicitations. And  
23 we expect to see how we integrate on a regional  
24 basis as that continues.

25 As far as permits and approvals

1 required, we have just gone through the process  
2 with our Salton Sea 6 unit. And I would expect  
3 that we would have similar type of environmental  
4 requirements, the spring and fall biological  
5 assessments, archeological assessments, land use;  
6 we would need approvals from BLM if some of the  
7 transmission ran across BLM, as it did this past  
8 time. And then, of course, from the CEC. And  
9 probably some others.

10 As far as actions to facilitate the  
11 transmission development, I guess that one of the  
12 things that I would to say is that I think you've  
13 done an excellent job of involving all the  
14 stakeholders. I think that's really critical in  
15 this process to have everybody lay their cards out  
16 on the table such that you can take a look at what  
17 needs to be developed. And have all the different  
18 parties involved.

19 Another area that we have noticed that's  
20 a major problem area is in who ends up paying for  
21 the transmission. A lot of times parties sit and  
22 wait for additional people to come in to them so  
23 that they can utilize the transmission. I think  
24 that's a process that needs to be dealt with, and  
25 a solution needs to be found, such that it's fair

1       for all parties involved; and yet encourages  
2       taking care of the various problems that we see in  
3       the transmission lines.

4               Another issue is, of course, trying to  
5       expedite the permitting process. I think we went  
6       through it fairly well this past time with Salton  
7       Sea 6.

8               And then finally, I would say that one  
9       of the things that I believe of any good plan is  
10      flexibility. And as we know, whatever we decided  
11      to -- or is decided upon, that over the next  
12      decade there will be changes, whether load growth  
13      someplace else, new generation, generation  
14      retirements or whatever. And so providing some  
15      type of flexibility and periods when the group can  
16      come together on a routine basis to update the  
17      process I think is necessary.

18              In conclusion, we have a significant  
19      resource there in the Valley. It's a resource, as  
20      Jonathan mentioned, that is tied to a specific  
21      location. We do not have the ability to move  
22      around. And for us to develop it it's critical to  
23      have access to various regional markets.

24              We believe that California is out in  
25      front by having encouraged this RPS process. We



1 think that the acceleration of the RPS  
2 requirements to 2010 is good from the standpoint  
3 of dealing with the need for new generation here  
4 in California. And reducing the reliance on  
5 foreign fuels.

6 And, once again, I applaud you on having  
7 coordinated the transmission planning and  
8 encourage you to continue that. Thank you.

9 PRESIDING MEMBER GEESMAN: Thanks, Dale.  
10 Why don't we go directly to the workshop -- or  
11 rather the roundtable.

12 MR. KONDOLEON: Yeah, I'd like to ask  
13 those who have participants to please take their  
14 seat, the roundtable participants. And I'd also  
15 like to introduce Joe Eto from Lawrence Berkeley  
16 National Lab, representing CERTS. He will be the  
17 moderator of the roundtable today.

18 MR. ETO: Thank you very much, Don.  
19 Happy to have the opportunity to help the  
20 Commission out here with this roundtable. What  
21 I'm going to do is follow the order that's in our  
22 agenda. And invite each of the speakers to speak  
23 specifically to the two questions that have been  
24 put before this roundtable.

25 The first being, what should be the

1 focus of the 2004 IEPR update to facilitate access  
2 to renewable resources.

3 And the second question is, the follow-  
4 on, is what should be the focus of the 2005 IEPR  
5 be.

6 Now, a number of you have had a chance  
7 to address the Commission with prepared remarks  
8 earlier, and I know that we're short on time.  
9 What I'd like to do is ask each speaker to speak  
10 very succinctly in just a few minutes to the main  
11 points, to these two questions specifically.

12 If you've not previously addressed the  
13 Commission earlier today, we'll give you a few  
14 more minutes, but we would like to move through  
15 this expeditiously.

16 So, let us start with Bill Myers of The  
17 Valley Group.

18 MR. MYERS: When the wind blows and when  
19 wind energy is being produced there's a lot of  
20 extra, significant amount of extra capacity on the  
21 transmission lines. This simple fact tends to get  
22 overlooked in the noise of the big picture here.  
23 And so at times I feel a little bit like a broken  
24 record when I do this, but I'd like to very  
25 briefly provide some brief prepared notes. And

1       then if there's any questions we'll go from there.

2               The Valley Group wishes to commend the  
3       CEC on its leadership role in exploring all facets  
4       of renewable energy, especially wind resource  
5       development and related transmission issues. The  
6       Valley Group has considerable expertise in the  
7       area; is directly involved with several IEE and  
8       CIGRE task force initiatives related to wind as it  
9       specifically relates to transmission line  
10      capacity.

11             We wish to call attention to actual  
12      results observed at a utility in the southwest  
13      United States using dynamic line rating technology  
14      to optimize access to wind farm energy production,  
15      while insuring transmission grid reliability. All  
16      at a minimal cost to the utilities and the  
17      ratepayers. A copy of this information has been  
18      available on the table out in the foyer, and it's  
19      in the form of a letter to Commissioner Geesman.

20             Dynamic line rating technology enables  
21      transmission system operators to utilize the  
22      natural correlation that exists between wind farm  
23      output and real, not assumed, transmission line  
24      capacity. This is not theorized, but rather has  
25      been proven and successfully implemented.

1           The bottomline is that wind farms and  
2       real time transmission line capacity is a marriage  
3       made in heaven, just like Patricia's marriage.

4           (Laughter.)

5           MR. MYERS: In the interests of being  
6       succinct, I won't go any further. But again, I  
7       wish that the Commission would take this marriage  
8       and the relationship between real time rating and  
9       wind generation into account in further planning.

10          Thank you.

11          MR. ETO: Thank you, Bill. Next we'll  
12       have Jane Turnbull from the League of Women  
13       Voters.

14          MS. TURNBULL: Thank you, Joe. Thank  
15       you for having us here today. The League has  
16       historically supported policy establishment that  
17       reflects public participation and democratic  
18       deliberation. It wants to see policy developed  
19       that shows an ethic of responsibility to one  
20       another and to future generations.

21          With that in mind we are very supportive  
22       of this integrated long-range planning that has  
23       been adopted both by the Energy Commission and  
24       also by the PUC. The fact that priorities are  
25       being developed through an energy action plan is a

1 very important step in the right direction.

2 We are also very pleased to see that the  
3 Commission is thinking really long term. And the  
4 work that is being done to look at what's going to  
5 be needed in terms of 2030 is a very important  
6 step forward.

7 I think today we've been focused on a  
8 very small subset of the total renewables that are  
9 going to be needed in 2030. We're going to need  
10 on the order of, I guess the estimate is 14,000  
11 megawatts of new renewables. And not too many  
12 years into the future. That's going to be an  
13 extremely interesting challenge. And that's just  
14 instate renewables.

15 So, therefore I think we really need to  
16 look at a statewide process that looks at how  
17 those renewables are going to be realized over  
18 this longer period of time.

19 We are concerned about the Balkanization  
20 of the transmission system. We don't like  
21 Balkanization in any form. We also don't like  
22 Balkanization of energy policy. And we don't like  
23 Balkanization of energy development.

24 With that in mind, we also have some  
25 concerns about what's happening in the

1       Legislature. We do think that the SB-1478 is  
2       something that the League will support, but we  
3       will support it with some very real reservations  
4       because we are concerned about the exclusion of  
5       the municipal utilities. We are also concerned  
6       about exclusion of Pacific Power and Light.

7               Pacific Power and Light is a very small  
8       part of the total demand in the state, and yet at  
9       the same time they have notable resources in the  
10      counties that they serve that could be developed  
11      as renewable resources. And they have been  
12      largely excluded from the planning process.

13             There's a good deal of biomass and  
14      geothermal in those counties. And the people in  
15      those counties would like very much to reap the  
16      economic benefits from development.

17             We support very strongly this use of --  
18      or the thinking in terms of land use planning that  
19      would have moved toward corridor development. I  
20      think the limitation, the five-year limitation, is  
21      something that needs to be addressed in the very  
22      near term.

23             We also think that this ought to be  
24      included in legislation that is currently going  
25      through our Legislature. To ignore the

1 transmission element of renewables is something of  
2 a mistake.

3 Finally, we want to comment the Energy  
4 Commission and the staff and the consultants,  
5 because I think that some of you guys have done  
6 some really beautiful work in terms of putting  
7 some really good numbers in place that the people  
8 in the state can work on.

9 And in terms of looking of what needs to  
10 be done in 2004 and 2005 I think we need to foster  
11 this longer term vision and get people planning  
12 for the future, not just for 2010, but for 2030.

13 PRESIDING MEMBER GEESMAN: Thank you,  
14 Jane.

15 MR. ETO: Thank you, Jane. Next we'll  
16 hear from Anthony Parisi from the Naval Air  
17 Systems Weapons Command -- Command Weapons  
18 Division, excuse me.

19 MR. PARISI: Good afternoon. Thank you  
20 for the opportunity to address the Commission. I  
21 represent the Naval Air Systems Command Weapons  
22 Division located at China Lake and Point Mugu.

23 We, along with the Edwards Air Force  
24 Base and the National Training Center at Fort  
25 Irwin manage the R2508 restricted air space

1 complex which overlies the Tehachapi wind resource  
2 area.

3 I'm here today to ask the Commission to  
4 insure that the military is involved in both the  
5 2004 IEPR update and the 2005 IEPR. Hal  
6 Romanowitz did a great job of basically stealing  
7 my thunder this morning, talking about some of the  
8 efforts we have ongoing.

9 But there are three points I would like  
10 to make to support my request. Number one, the  
11 R2508 complex and the associated areas are  
12 critical national assets, essential for national  
13 defense.

14 Two, construction of tall structures  
15 without military coordination could have major  
16 impacts.

17 And three, we, the military,  
18 enthusiastically support renewable energy projects  
19 and have no desire to prevent their development.

20 The R2508 complex encompasses 20,000  
21 square miles of electronically monitored special  
22 use air space. It is critical to the testing of  
23 every aviation-related weapons system and to the  
24 training of our pilots. It is the hub of a  
25 network of low-level air routes and other major



1 air space and ranges located in the southwestern  
2 United States. And Hal showed a slide that  
3 depicted that pretty well.

4 Testing and training done here saves  
5 lives of our military who go in harm's way. The  
6 young men and women serving today in harm's way  
7 are highly dependent on the air support of the  
8 Navy, Air Force and Marine Corps pilots who  
9 receive a great deal of training in California.  
10 Our young pilots must be proficient at low  
11 altitude flying and must train, as we fight, in  
12 order to minimize the risks to themselves and the  
13 ground and sea personnel they support.

14 The weapons they use must work the first  
15 time, every time. Much of that flight test and  
16 training occurs within the R2508 complex. Many  
17 low level routes start at 200 feet and some of the  
18 restricted air space starts at ground level.  
19 Flying at low level is much more difficult than  
20 higher altitudes, and tall structures pose  
21 potential flight safety risks. They also require  
22 pilots to fly higher and diminish training value,  
23 as well as affecting testing of weapons systems  
24 and tactics.

25 As Hal said, we have been working with

1 the wind industry through the Kern Wind Energy  
2 Association on a plan that protects the military  
3 test and training mission while allowing  
4 development of wind energy projects in the  
5 Tehachapi area and Kern County, in general.

6 The goal is to identify areas where wind  
7 energy projects are compatible with the military  
8 mission. We have presented KWEA with the  
9 proposal, which you saw in Hal's presentation, and  
10 will be meeting again next week to discuss  
11 comments its members may have.

12 In summary, we want to insure that the  
13 R2508 air space and associated air routes can be  
14 utilized to conduct vital testing and training of  
15 our military forces, while supporting the  
16 development of wind energy and insures  
17 transmission corridors necessary to that  
18 development.

19 We request that we be involved in the  
20 planning effort, and that the military mission be  
21 taken into account. Because there is special use  
22 air space throughout the state, we also ask that  
23 the statewide planning effort address potential  
24 impacts on the military mission.

25 Thank you.

1               PRESIDING MEMBER GEESMAN: I want to  
2     thank you for being here. And also provide you my  
3     assurance that your interests will fully be taken  
4     into account in our planning process. And that we  
5     will carefully coordinate with you to assure that  
6     they are throughout the process.

7               As it relates to other areas in the  
8     state, are you the best contact for us to go  
9     through?

10              MR. PARISI: I could provide some  
11     contacts --

12              PRESIDING MEMBER GEESMAN: Okay, that  
13     would be very helpful. That would be very  
14     helpful.

15              MR. PARISI: Yes, sir.

16              PRESIDING MEMBER GEESMAN: Thank you  
17     very much.

18              MR. ETO: Thank you. I don't see John  
19     White, and I know I got in trouble last time we  
20     ran one of these for jumping around by following  
21     the order, but I'm going to follow the order of  
22     the table. Let me introduce Mark Ward from LADWP.

23              MR. WARD: My name's Mark Ward from  
24     LADWP. As you know, LADWP has done a lot of  
25     planning that was previously outside of some of

1 the processes for the CEC. We look forward to  
2 working in this particular process for future  
3 growth.

4 We are very sensitive to the cost  
5 effectiveness of whatever solutions that are put  
6 forward. We would hope that the Commission would  
7 not preclude direct ownership by the utilities,  
8 since we see direct ownership as a cost effective  
9 method of the utilities to provide stable rates to  
10 its consumers.

11 PRESIDING MEMBER GEESMAN: I'm not clear  
12 on what you mean by that, Mark.

13 MR. WARD: A lot of focus has been on  
14 merchant plants and the ability of merchant plants  
15 to supply utilities. And to some extent I think  
16 there's a perception in the industry that merchant  
17 plants will replace a lot of the utility  
18 generation. And that, in some cases, we know that  
19 there's been either legislative or other types of  
20 processes put in place to have utilities either  
21 divest or have less than optimal solutions for  
22 some of the utilities.

23 PRESIDING MEMBER GEESMAN: Okay, I  
24 understand. Let me respond partially to it. To  
25 the best of my knowledge that discussion has

1 focused on the investor-owned utilities and has  
2 never called into question direct ownership of  
3 generation by the municipal utilities.

4 As it relates to the investor-owned  
5 utilities, the closest thing that you have to a  
6 statement of policy from the executive branch of  
7 government would be the energy action plan adopted  
8 last year, which took a distinctly agnostic view  
9 toward investor-owned utility ownership of  
10 generation assets.

11 MR. WARD: And I guess lastly we applaud  
12 the Commission for looking into the future and  
13 dedicating both assets and space and land use for  
14 future development. And we look forward to  
15 participating in that particular process, also.

16 PRESIDING MEMBER GEESMAN: Well, I want  
17 to thank you for being here, and say a couple more  
18 things. I do very much appreciate the involvement  
19 that Los Angeles has shown in the last six months  
20 or so in terms of your interest in participating  
21 in our planning processes.

22 And I would also throw out for your  
23 consideration going forward, whether there are  
24 instances when you think you would benefit from a  
25 state licensing process, as well. I recognize

1       that you traditionally are the lead agency for  
2       CEQA permitting purposes for most of your  
3       projects, but I suspect there are probably some  
4       neighborhoods around the state where the state  
5       might be a little more palatable source of  
6       licensure. And I'd certainly invite your  
7       consideration of that in the future.

8               MR. WARD: Thank you. And I think that  
9       we may end up taking you up on that. Not only for  
10      power, but I know that we will also be looking to  
11      how we will provide our water ratepayers in the  
12      future.

13             MR. ETO: Thank you. Let's go on to Pat  
14      Arons from Southern California Edison.

15             MS. ARONS: I would like to make two  
16      additional comments. I know I took a lot of time  
17      this morning, so I will be brief.

18             My first comment is as the CEC  
19      Commission begins to think about taking on a  
20      corridor-planning activity my suggestion would be  
21      in the 2004 IEPR really put a focus on it that is  
22      specific to renewables.

23             The reason why I suggest that is you  
24      have two reports that are public documents  
25      already, so your needs are well defined, and your

1 concepts for projects are well defined. And they  
2 provide a nice platform for learning about and  
3 putting some flesh on the bones as to what  
4 corridor planning really is.

5 My concern would be if we blow it up to  
6 include all needs for which we might be building  
7 transmission, we lose sight on what corridor  
8 planning really can achieve, as opposed to really  
9 defining and understanding what the opportunities  
10 are. And I think as we get into it, a narrower  
11 focus on what the needs are will enable us, at the  
12 outset, to focus on really understanding corridor  
13 planning; what we can achieve; how far we can take  
14 it in terms of facilitating development.

15 My next comment is that there are  
16 internet-based tools that provide very nice  
17 platforms for conducting almost a facilitated  
18 dialogue, recording perspectives on different  
19 corridor implications. They mesh very nicely with  
20 GIS databases. And really, it enables members of  
21 the public -- and at this time in corridor  
22 planning, when I say public I think local  
23 jurisdictions and counties -- but it enables those  
24 planners to look at tradeoffs within their areas  
25 and provide input in a facilitated basis.

1           There is a model out there that we have  
2       presented to the Energy Commission at a time when  
3       we were looking at PIER funding to facilitate  
4       development. And it's a facet decision systems  
5       model. I bring that up not because I'm advocating  
6       PIER funding for this project, but rather it is an  
7       opportunity at the outset to incorporate some sort  
8       of internet-based tool, as you do your corridor  
9       planning.

10           So I would encourage you to explore  
11       those options and make it part of what you want to  
12       achieve. Because unless you have like a very  
13       intensive set of workshops, the opportunity to get  
14       input can be very tedious. And an internet-based  
15       tool can actually help facilitate, document,  
16       record and make a decision-type system easily  
17       understandable, why you ended up where you did.  
18       So I would encourage the Commission to do that.

19           PRESIDING MEMBER GEESMAN: I think  
20       that's extremely well taken. We will definitely  
21       follow up on that.

22           While I think of it, if you could also,  
23       and I'm not certain I've ever asked a utility to  
24       have their lawyers get back to me -- but if you  
25       could have your lawyers dig out whatever PUC



1 decision it was that reverted back to the five-  
2 year right-of-way holding provision, I'd really  
3 like to learn more about the rationale that was  
4 used at the time. I doubt that it still applies.

5 MS. ARONS: I will do that. And I'm  
6 also trying to get some research done on the FERC  
7 rate mechanisms --

8 PRESIDING MEMBER GEESMAN: Yes.

9 MS. ARONS: -- for holding properties,  
10 as well. Because I think the two go hand-in-hand,  
11 really.

12 PRESIDING MEMBER GEESMAN: Thanks.

13 MS. ARONS: I will do that.

14 MR. ETO: Thank you, Pat. Next, moving  
15 around the table, is Robert Sparks from the  
16 California ISO.

17 MR. SPARKS: I have a fairly focused  
18 point, I guess, for an activity in the 2004 IEPR,  
19 and it might even be an activity that takes place  
20 outside. But, for specifically the Tehachapi  
21 transmission plan, the proposed decision the CPUC  
22 has floated out requires a CEC -- if I remember  
23 correctly in the decision -- requires a CEC  
24 forecast on renewable development.

25 And I know for the renewable development

1 plan for the entire state that was published, I  
2 think, I don't know, about six months ago, the CEC  
3 had worked on that and had done a good job on  
4 that. But, I would think that a continuous  
5 update, sort of an annual update on that report  
6 within the IEPR or some other process would be  
7 extremely useful, at least from my perspective.

8 MR. ETO: Okay, thank you. Next we have  
9 Jon Fischer from PPM Energy.

10 MR. FISCHER: Hi. Real brief. I would  
11 play off a little bit with what Pat said, and I  
12 think Robert, as well. With respect to looking at  
13 conceptual plans and studies and so forth,  
14 specifically with the Tehachapi, sometimes these  
15 projects can get so large as to be buried under  
16 their own weight.

17 And I'm from the Northwest, and my  
18 background is with Bonneville Power; worked there  
19 for a number of years on the transmission side.  
20 And I've seen things get studied to death. To the  
21 point where nothing ever gets built.

22 And you can talk about plans and I think  
23 what we've found today maybe folks, as we've gone  
24 around talking to people in the industry, when  
25 they realize the amount of consensus that we have,

1 at least with respect to phase one, and I think  
2 we've heard some of it today, right down to  
3 agreement on what the path should be, and what  
4 constitutes phase one. Maybe seize on that and  
5 maybe advertise it a little more.

6 There is actually something to get the  
7 ball rolling, and see where it goes from there.

8 MR. ETO: Okay, thank you. Next, Hal  
9 Romanowitz from Oak Creek Energy Systems.

10 MR. ROMANOWITZ: Thank you. I think  
11 I've be put in a hard position being so far down  
12 the chain here. Many of my thoughts have been  
13 stolen by Tony and Pat and Robert and Jon.

14 But I think this process has been quite  
15 good. And I might just state them just slightly  
16 differently, because I think the taking advantage  
17 of the opportunities and making economic good use  
18 of our resources is extremely important. And  
19 there are a few things that we need to keep in  
20 mind as we do that.

21 And number one is that transparency is  
22 crucial for an efficient stakeholder dialogue and  
23 stakeholder process. And it is that stakeholder  
24 process, enlightened by transparency, that will  
25 make this process efficient. And we will get the

1 best use of the resources and get things hashed  
2 out in a way that does things at low cost. And  
3 with good results.

4 Secondly, I think there is a need to  
5 differentiate the changing environment into the  
6 process. The conventional process for  
7 transmission planning is based on firm  
8 transmission rights, assured worst case conditions  
9 under all scenarios that the load is going to be  
10 carried under an N-1 condition.

11 Whereas FERC is mandating a much  
12 different environment, which is an as-available,  
13 opportunistic environment. And that needs to be  
14 incorporated into the thinking. And from  
15 everything I can see there is very major  
16 opportunity and economic benefit in the principles  
17 that the Legislature has tried to put forward in  
18 least cost/best fit that can be achieved by taking  
19 good use of that.

20 And one is you have to have information  
21 which is now partially available, but it's really  
22 inadequate to take advantage of that. So we need  
23 better information.

24 And I think it's clear that some form of  
25 energy storage is going to become a significant

1 player of things in the future, in the near future  
2 probably. And that needs to be factored into the  
3 thinking, not foreclosed. Think about it, not  
4 depend upon it, but get it into the process.

5 And crucial is, as Pat pointed out, land  
6 use planning, land right-of-way acquisition so  
7 that we have it and you know where the  
8 transmission lines are going to be in the future  
9 and you don't get locked out because you failed to  
10 act earlier.

11 I think that this is sort of a  
12 transition time in many ways and really needs to  
13 be incorporated into the planning.

14 PRESIDING MEMBER GEESMAN: What kind of  
15 missing information were you suggesting?

16 MR. ROMANOWITZ: There is, as an  
17 example, the histograms on load flow that you see  
18 used are available to a very limited degree right  
19 now. The SSGWI, the Seems working group, has done  
20 a great job on that. The Pacific Corp has helped  
21 that process in a big way.

22 It's a great start, but it doesn't go  
23 far enough, and it doesn't go deep enough. And I  
24 think an extension of that process, number one.

25 Secondly, then, incorporating that into

1 the way that our purchase agreements are written.  
2 Or other renewable energy is allowed to interface  
3 to the grid. To take advantage of those  
4 opportunities is really important to an efficient  
5 use of the grid.

6 Because if you look now the grid is, on  
7 an average basis, is used less than 50 percent of  
8 time. In other words, there's all of that  
9 investment is less than 50 percent utilized  
10 overall.

11 And so that the opportunities to take  
12 advantage of that unused capacity is an enormous  
13 economic resource that we should be taking  
14 advantage of. And we can only do it with a change  
15 in thinking. FERC is giving us a start. FERC is  
16 laying out some guidelines, I think, that helps in  
17 that process. And it needs to be taken, some  
18 additional steps.

19 PRESIDING MEMBER GEESMAN: Thank you.

20 MR. ETO: Thank you. Let's hear now  
21 from Juan Carlos Sandoval from the Imperial  
22 Irrigation District.

23 MR. SANDOVAL: Yeah, my comments are  
24 going to pretty much -- support, you know, what  
25 has been said before by Pat and others in this.

1 Is to develop policy for transmission corridor  
2 reservations and planning -- slash planning.

3 Also to support and facilitate process  
4 to expedite and facilitate required permits for  
5 these transmission projects.

6 And a third one that I haven't heard is  
7 in the case of Salton Sea transmission project,  
8 find a mechanism to allocate fundings for regional  
9 and local planning assessments.

10 Those are my comments.

11 PRESIDING MEMBER GEESMAN: Thank you.

12 MR. ETO: Thank you. Let's now hear  
13 from David Korinek from San Diego Gas and  
14 Electric.

15 MR. KORINEK: Commissioner, I'd like to  
16 raise a concern that's been touched on by a couple  
17 of the speakers today that I would say deals with  
18 the systems dimension of the renewables question.

19 Integrating renewables into the system  
20 is more than just building a production facility  
21 and connecting it with transmission. There's much  
22 more systems engineering that needs to be done  
23 than just to do those two things. And unless you  
24 do that systems engineering you don't really know  
25 the feasibility or the true cost of the renewable

1 resource.

2 We heard Pat Arons touch on the big  
3 question about ramping rates that are introduced  
4 by uncontrollable renewables like wind. And Hal  
5 Romanowitz also talked about the vast amounts of  
6 dynamic voltage support that may be needed in some  
7 of these renewable technologies.

8 In fact, what I believe the Commission  
9 needs to consider as part of its 2005 IEPR goals  
10 is to allocate money and allocate consulting  
11 resources to do more of a systems study that would  
12 address the big questions, like how many thousands  
13 of megawatts of wind resources and how many  
14 thousands of megawatts of solar resources, the  
15 uncontrollable kinds of resources, can be safely,  
16 reliably and economically integrated from a  
17 systems point of view that takes into account  
18 those kinds of factors.

19 The spinning reserve that needs to be  
20 available on other kinds of machines to control  
21 the ramp rates and to prevent unacceptable  
22 frequency excursions which can cause serious  
23 problems with systems and with customer equipment.

24 The kinds of voltage support, dynamic  
25 apparatus that would be required. And when do you



1 reach saturation in terms of how much of these  
2 kinds of things you can offset, or that you need  
3 to offset the uncontrollable resources.

4 And an important part of that, of  
5 course, would be the energy storage component.  
6 How can you offset that, mitigate that  
7 uncontrollable feature by incorporating a  
8 significant amount of energy storage into the  
9 systems design.

10 So that would be my recommendation to  
11 the Commission for 2005, is begin to think about  
12 this more on a statewide systems basis and what  
13 are the implications of this. And try to get the  
14 state's arms around what are the true costs of  
15 these resources as they reach saturation levels.

16 PRESIDING MEMBER GEESMAN: Well, I'm  
17 glad you raised that, because I think Edison  
18 raised it in October or November last fall when we  
19 adopted the '03 report. And we did make a  
20 commitment then, and intend to follow up on it, to  
21 make the integration of intermittent resources a  
22 prominent feature of the '05 report.

23 I think it also does call into question  
24 whether we utilize the existing gas fired plants  
25 on the system to the best of our ability. And,

1       frankly, whether or not we ought to look forward  
2       in terms of altering the types of contracts we  
3       enter into with gas fired plants.

4               There may be a better way to dispatch  
5       the system to maximize the generation from  
6       renewable sources if, indeed, that's what the  
7       public wants us to do.

8               But it's very clear, as these numbers go  
9       upward, they raise integration issues that we've  
10      got to get a firm handle on. So I thank you for  
11      raising that.

12              MR. ETO: Okay, thank you. And then  
13      next we have Dale Stevens from Cal Energy.

14              MR. STEVENS: A little awkward position  
15      here, I'm sorry. I think that we've heard a  
16      number of good ideas as far as what we need to be  
17      about. And I guess I would echo some of them in  
18      that I think that really key here is taking a look  
19      at the whole, and not dividing and looking at the  
20      parts. And finding what may, in one situation,  
21      not be -- or in certain situations you may find a  
22      really economical way or low-cost way to do  
23      something, but it's looking at the near term and  
24      not at the longer term.

25              And that another approach that actually

1 might be more costly in the near term would  
2 actually be an overall savings to the state as you  
3 look in the longer term.

4 And some of those may be just simply  
5 choosing which corridors that you go on in order  
6 to get closer to geothermal, in our case, or  
7 potentially building a larger conductor and not  
8 having to build a second line down the road.

9 And so I think that taking a look at  
10 that in the holistic arena is one of the key  
11 things that I would see.

12 The other thing that I would say from  
13 earlier today we talked about timeliness of trying  
14 to get things into the process fairly quickly, as  
15 we see the need to develop it, so that we don't  
16 find ourselves, I guess, missing opportunities  
17 that come along such as was mentioned with wind,  
18 the production tax credits that might cease. Or  
19 in the case of our development there in Salton  
20 Sea, that particular other developers outside of  
21 the region build plants and thus cause further  
22 congestion.

23 In some way integrating that whole area  
24 that is outside of California into the process  
25 would be of value.

1                   PRESIDING MEMBER GEESMAN: Well, I sure  
2           agree with you in terms of the value of taking a  
3           more proactive approach. And it may not be the  
4           least-cost result in the short term, but I think  
5           it does require a fairly significant culture  
6           change on the part of state government. Because  
7           we, typically in this area, have been so reactive.  
8           You know, we depend on the participating  
9           transmission owners to bring a transmission  
10          project. In many instances they depend upon the  
11          applications of generators, such as yourselves, to  
12          initiate a project.

13                   I think that the press of economic  
14          growth and population growth are a little bit too  
15          fast paced for us to follow that reactive approach  
16          very much longer. So I thank you for your  
17          comment.

18                   MR. ETO: Let me ask now if there are  
19          any other interested parties or individuals who  
20          would like to address the topics to which this  
21          panel has been speaking.

22                   Seeing none, let me ask now if the  
23          Commissioners or their Advisors have any further  
24          questions of this panel.

25                   All right, thank you for your time. I'm

1 going to turn the agenda back to Don Kondoleon  
2 now.

3 MR. KONDOLEON: Okay, thank you. Moving  
4 on to the next topic area, we have two staff  
5 presentations on our Southern California  
6 Transmission Corridor Study proposal. The first  
7 presentation will be given by Kristy Chew. And  
8 that will be followed by a presentation from  
9 Eileen Allen.

10 Kristy.

11 MS. CHEW: Thank you. I have a  
12 presentation today regarding a proposed study that  
13 will be undertaken by the Energy Commission to  
14 study the southern California transmission rights-  
15 of-way and corridors.

16 Today, planning transmission corridors  
17 in California, the Energy Commission Staff is  
18 proposing to develop a transmission corridor study  
19 that will identify environmental and land use  
20 constraints to the expansion of transmission  
21 corridors.

22 We're preparing the study in response to  
23 Public Resources Code 25303 that requires the  
24 Energy Commission to assess the availability of  
25 electricity infrastructure as a part of the

1 Integrated Energy Policy Report.

2 We are also preparing the study in  
3 response to comments made at previous hearings,  
4 meetings and workshops such as these for better  
5 transmission corridor planning in California.

6 The Energy Commission sees the early  
7 identification of environmental and land use  
8 constraints for fatal flaws to the expansion of  
9 existing corridors would benefit future  
10 transmission planning. Early identification of  
11 corridor availability would assist in the  
12 development of preferred routes and alternatives.

13 The goals of the study are to assess the  
14 availability, use and expansion potential for  
15 existing rights-of-way. We're only studying the  
16 bulk transmission lines so only those rights-of-  
17 way with lines that contain 60 kilovolts lines or  
18 greater would be studied.

19 We'd like to identify issues in  
20 expanding right-of-way to inventory unused rights-  
21 of-way to complete the existing right-of-way  
22 picture. We'd like to identify future corridor  
23 needs to aid in accessing land and geothermal  
24 resources in the Tehachapi and geothermal Salton  
25 Sea area. And transmission expansion would also

1 provide electricity system benefits.

2 We are studying existing right-of-way  
3 which is consistent with the principles identified  
4 in Senate Bill 2431. And although these  
5 principles were developed 16 years ago, the  
6 principles are still sound today.

7 The principles are, one, to encourage  
8 the use of existing right-of-way. Two, to  
9 encourage the expansion of existing right-of-way  
10 for new infrastructure. Three, to create right-  
11 of-way only when justified by environmental,  
12 technical or economic reasons. And finally, four,  
13 when a new corridor or right-of-way is deemed  
14 necessary, to seek agreement from all interested  
15 parties to efficiently use the new transmission  
16 corridor capacity of the new corridor.

17 The Energy Commission believes that  
18 these principles should be followed when deciding  
19 to expand the existing transmission grid. The  
20 Energy Commission currently uses these principles  
21 when siting the connection of power plants to the  
22 grid through the Commission's existing licensing  
23 process.

24 Our proposed study approach is to, one,  
25 focus on the southern California area for the 2004

1 IEPR update, which includes the Tehachapi and  
2 Salton Sea regions.

3 Two, we'd like to identify the existing  
4 bulk transmission lines and the unused rights-of-  
5 way in southern California.

6 And three, we requested participation  
7 and assistance in the study from Pacific Gas and  
8 Electric, Southern California Edison, San Diego  
9 Gas and Electric, Imperial Irrigation District and  
10 Los Angeles Department of Water and Power.

11 Letters were sent to these agencies and  
12 entities last month. And we intend to coordinate  
13 these entities to gain the information and to  
14 complete the study.

15 We have asked them for environmental  
16 data; land use data; ownership data; any completed  
17 analyses that identify major constraints to  
18 corridor right-of-way expansion. For example, we  
19 asked for environmental impacts and mitigation  
20 requirements they may already be aware of. We've  
21 asked them for their plans for corridor expansion  
22 within the study area. And from their perspective  
23 we'd like to know what they think the study should  
24 achieve.

25 The end result will be an identification



1 of environmental factors to expanding existing  
2 transmission corridors at a fatal flaw level.  
3 Staff is currently gathering environmental  
4 information on a geographic information system  
5 here at the Energy Commission. We're also  
6 gathering permitting need data for existing  
7 transmission corridors and right-of-way.

8 And in a little while Eileen Allen will  
9 discuss the environmental factors and constraints  
10 that we are proposing to study in this report.

11 And to focus in on our study area we are  
12 proposing to look at the 2004 the southern  
13 California region. And here's a closer view of  
14 that area. We divided the study area into four  
15 subsets, the Tehachapi corridors; the San  
16 Bernardino corridors; Riverside/Imperial County  
17 corridors; and the San Diego corridors.

18 We see that this region has the most  
19 immediate need for transmission upgrades. The  
20 southern California region has most of the state's  
21 renewable resource potential, including the wind  
22 resources at Tehachapi and Salton Sea.  
23 Additionally, imports from Nevada, Arizona and  
24 Mexico would come through this region. This  
25 region would benefit most from this additional

1 study and corridor planning at this time.

2 And if this study is successful we  
3 intend to expand our analysis to other regions in  
4 the state in future Integrated Energy Policy  
5 Report proceedings.

6 And as an example, here's a more detail  
7 map of the San Diego corridor area that we plan to  
8 study. The existing bulk transmission lines are,  
9 and they're really faded on the screen, so all of  
10 these are the identified 60 kV to 500 kV lines  
11 that we are studying. And the substations are the  
12 small white squares.

13 We would like to add the unused right-  
14 of-way that is currently owned by utilities right  
15 now to complete the picture of existing right-of-  
16 way. And as mentioned earlier, we would use  
17 Energy Commission geographic information RP system  
18 to show the environmental land use data.

19 And for this view I've turned on the  
20 land ownership layers. And they're the federal,  
21 Native American only under BIA land, and land use  
22 data are shown. The military, for instance Camp  
23 Pendleton, is turned on there. And El Centro Air  
24 Station is right there. As well as Anza Barrega  
25 and the Salton Sea area is right here. And Joshua

1 Tree is right up there. BLM land is shown as that  
2 checkerboard kind of greenish yellow color.

3 So we can turn on and off different  
4 layers of information. We can zoom in and out to  
5 show more or less detail as desired. And our data  
6 sources will be discussed further by Eileen Allen.

7 We would like some input on our study  
8 approach. Have asked which corridors should be  
9 identified or studied in the 2004 IEPR update.  
10 We'd like to know what priority corridor needs  
11 there are for the next ten years. Which corridors  
12 should be the most -- should be the corridors that  
13 we should study immediately, and ones that need to  
14 be planned out for future study.

15 And we'd like to know what other  
16 information would be valuable to developers,  
17 utilities, the public, others when studying  
18 corridors in this area. So we'd like to know for  
19 2004 what we should study; and for 2005 and beyond  
20 what we should be studying.

21 And what are our next steps. Currently  
22 our next step is to collaborate with other  
23 utilities, the ISO and other agencies and the  
24 public in the development for this information.  
25 We'd like input on this study, so if you have any

1        comments or recommendations on our study approach  
2        or next steps we'd like to hear them.

3                We want the study to be valuable to  
4        everyone, so please share your thoughts with us.  
5        Please tell us what would be useful to you in this  
6        type of study. And this will be an iterative  
7        process, and we'd modify our study to best suit  
8        the identified needs. Time is short to finalize  
9        the 2004 IEPR update, so we'd like to have input  
10       within the next two weeks, the May 24th.

11               And that concludes my presentation. If  
12       there's any comments or questions at this time, we  
13       can take them. Otherwise, Eileen Allen will go  
14       ahead and talk about the environmental constraints  
15       that we're analyzing.

16               MS. ALLEN: Hello, I'm Eileen Allen from  
17       the Energy Commission's Environmental Office. I'm  
18       a Senior Land Use Planner, as well as the  
19       Environmental Office's Policy Coordinator. And I  
20       work on a number of projects related to the 2004  
21       IEPR update.

22               The major environmental factors  
23       affecting transmission line corridors are  
24       biological resources, cultural resources, land  
25       use, visual resources. And then if you have other

1 ideas on resources that you would like to see  
2 included that aren't in this group, we'd like to  
3 hear from you about that.

4 The initial information sources that  
5 we've used in the preliminary phases of the study  
6 are looking at the federal agencies, the U.S.  
7 Bureau of Land Management, the U.S. Forest  
8 Service, the Department of Defense, particularly  
9 the air force bases, U.S. Bureau of Indian  
10 Affairs.

11 And at the state agency level the  
12 California Resources Agency, within the Resources  
13 Agency there is the Department of Fish and Game,  
14 Department of Parks and Recreation, and the Native  
15 American Heritage Commission.

16 At the local agency level we've been  
17 talking with city and county community development  
18 staffs and we plan to address regional government  
19 staffs. We also see transmission and pipeline  
20 owners are a source of information, along with  
21 public groups and individuals.

22 In addition to the agencies that I've  
23 shown here as examples, we have GIS map  
24 information from other agencies such as the  
25 National Park Service, Caltrans for Scenic

1 Highways, and the State Lands Commission for  
2 state-administered land.

3 Looking at specific resources, from the  
4 biology perspective, our biologists have access to  
5 the California National Diversity database, which  
6 provides information on protected animal and plant  
7 species. We can zoom in to the 1:24,000 scale  
8 maps to see topographic features and the  
9 concentration and type of protected species in a  
10 small area.

11 There are a number of Department of Fish  
12 and Game and Resources Agency geographic  
13 information system databases, including areas of  
14 special biological resources concern. They  
15 include public and private lands that are  
16 preserved for mitigation bank purposes. And local  
17 and regional habitat conservation plan areas.

18 Please let us know of any other  
19 biological resource features that you'd like to  
20 see considered in the study.

21 Moving to land use we'll be looking at  
22 the BLM desert conservation area plan for multi-  
23 use utility corridors; BIA/GIS data for tribal  
24 land boundaries; California spatial information  
25 library data for wilderness area boundaries. As

1 an aside, the California spatial information  
2 library is a joint project between the California  
3 Resources Agency and NASA.

4 We'll be looking at California State  
5 Parks data on park boundaries. And talking with  
6 local government planning staffs and looking at  
7 their general plans to ascertain urban growth  
8 directions and trends.

9 And then we're interested in any other  
10 sources that you'd like us to look at for land  
11 use.

12 Addressing cultural resources, we'll be  
13 looking at the Native American Heritage  
14 Commission's sacred lands file. And looking at  
15 the California Register of Historic Resources for  
16 historic structures.

17 From the visual perspective we've looked  
18 at Caltrans website for state scenic highway  
19 locations, and also local general plans for other  
20 scenic routes. And any specific scenic resource  
21 policies in those general plans.

22 This is a repeat of Kristy's slide  
23 showing the four study area zones within the  
24 overall study. And this is an example of the  
25 Tehachapi region. It's been a long time since I

1       used a laser pointer, so please bear with me.

2               The major land use features are the two  
3       north/south transmission corridors.

4               (Pause.)

5               MS. ALLEN: Thank you, we've switched  
6       tools now.

7               There's the Western corridor. The  
8       colors aren't showing up very well, but this is  
9       basically it. And I think it shows in the black-  
10      and-white version that you've got, on there the  
11      two transmission corridors. This one and this one  
12      to the right is adjacent to Edwards Air Force Base  
13      which is an area that looks pink in color, but  
14      shows as somewhat blue there. It's a very large,  
15      rectangular area on the right side of the screen.

16              Other major features are a checkerboard  
17      pattern up here which is BLM-administered land.  
18      We're also interested in whether you think we  
19      should be looking at any connections to PG&E  
20      system leading up to the Midway area from the  
21      Bakersfield region.

22              This map is an example of the Salton Sea  
23      region, again, using the GIS system approach. It  
24      has a somewhat more complex array of features than  
25      the Tehachapi area does. These GIS features



1 include the Salton Sea, itself, and its shoreline.  
2 The Salton Sea and its shoreline have quite a  
3 variety of biological resources.

4 And then there are transmission  
5 corridors on either side of the Salton Sea.  
6 Somewhat paralleling the transmission corridors  
7 are highway corridors; state route 78, 86 and 111.

8 Anza Barrega State Park is a major land  
9 use in this area to the west of the Salton Sea.  
10 In Riverside County there is Joshua Tree National  
11 Park up here. It's also about -- it is a national  
12 park, but about 80 percent of it is a designated  
13 wilderness area, so it's sometimes referred to as  
14 a national park and wilderness area.

15 Moving over to here we've got the  
16 growing urban region of the Palm Springs area  
17 cities. And then Indio and Coachella. This area  
18 also has many tribal land holdings which don't  
19 show up very well here. They're shown in burnt  
20 orange, but a clue is that many of them are in a  
21 checkerboard pattern.

22 As far as analytical approaches and next  
23 steps, we're looking at corridor expansion  
24 constraints and opportunities. We'd like to hear  
25 from you about any factors that you consider fatal

1       flaws. Also challenges that are not fatal flaws,  
2       but are still going to be potentially difficult to  
3       deal with. Your ideas on resource balancing  
4       related to environmental protection needs. Any  
5       other approaches that you would have in mind for  
6       us in addition to the GIS approach and the  
7       preliminary discussions that we've had with public  
8       agency staffs.

9               Kristy mentioned the transmission owners  
10       information on unused corridors that we're  
11       seeking. As I noted, we're looking for any  
12       overall suggestions you have on our current  
13       approach.

14              I'm happy to answer any questions that  
15       you have now, since that concludes my  
16       presentation. Otherwise I look forward to seeing  
17       you at the June 14th workshop. Thank you.

18              Are there any questions for me?

19              MR. KONDOLEON: Thanks to Eileen and  
20       Kristy. The final topic for discussion today will  
21       be staff's progress to date in the development of  
22       a transmission vision. And that presentation will  
23       be provided by Judy Grau.

24              MS. GRAU: Okay, there is a supporting  
25       document that was placed on the Energy

1 Commission's website on May 5th. It's a 16-page  
2 handout. It's also available on the back table.  
3 It's called Summary of Comments from the April 5,  
4 2004 Integrated Energy Policy Report Committee  
5 Workshop on the 2004 Transmission Update and Draft  
6 Transmission Vision. It's also known as  
7 attachment C to the workshop notice.

8           You may have had a little trouble  
9 finding it on our website. They actually put it  
10 under the April 5th workshop because it was  
11 summarizing those comments, as opposed to being  
12 under the May 10th workshop documents --  
13 supporting documents. So, I apologize if some of  
14 you have not had a chance to look through that  
15 thoroughly.

16           But, as I'll mention at the end, we do  
17 have a comment period until May 24th, and we look  
18 forward to more detailed comments then.

19           I have four things I'll go through  
20 briefly. A background, summary of comments  
21 received, draft vision and next steps.

22           And so beginning with background, our  
23 overall purpose is to collaborate on the  
24 development of a long-term vision for the state's  
25 transmission system. We did begin this process at

1 the April 5th IEPR Committee workshop on  
2 transmission. And that began with a presentation  
3 by Joe Eto of CERTS. That was the outlook to the  
4 year 2030 on alternative scenarios for the state's  
5 transmission future. And then I gave a short  
6 presentation on potential drivers processing next  
7 steps. And that was followed by a very well  
8 received roundtable discussion. And we also  
9 received written comments after the workshop.

10 And so what I did is after getting the  
11 transcripts from the workshop I went through the  
12 first 109 pages, which was all that morning  
13 discussion. And what I did was try to capture  
14 those comments that either explicitly or  
15 implicitly related to the development of a vision.

16 And this included comments that provided  
17 a perspective on what the transmission system of  
18 the future may look like, which is what Joe Eto's  
19 presentation was about, as well as comments about  
20 what the transmission system should look like, or  
21 what it should accomplish, as well as the factors,  
22 drivers and principles that do or should affect  
23 the development of the vision.

24 And so during the oral comment period,  
25 these are more or less, I believe, in the

1 transcript order, and in fact, my 16-page handout  
2 was done in order of the transcripts, so it's  
3 pretty easy to follow along and see. Hopefully I  
4 captured you all accurately, summarized your  
5 thoughts accurately. And if not, I'd like to hear  
6 from you.

7 So there were a total of 21 people who  
8 made oral comments that are on the record in the  
9 transcripts. And we also received written  
10 comments from five parties at and after the  
11 workshop.

12 And so what I tried to do was take all  
13 those pages of summaries of people's comments and  
14 try and come up with some common themes. And they  
15 were very sort of yin and yang things. We heard  
16 lots of comments about the great value of  
17 transmission, but we also heard that transmission  
18 is only one piece of the energy puzzle. And in  
19 fact the whole infrastructure of California  
20 puzzle.

21 We heard comments about the timing being  
22 right to develop a long-term vision, but we also  
23 heard comments that it's also the right time to  
24 take short-term actions. We heard many comments  
25 about planning ahead for corridors. We heard that

1       today, again, of course. And how important it is  
2       to set aside right-of-way. But conversely, we  
3       also heard comments then and today about making  
4       more efficient use of the existing system.

5               We also heard comments about the need to  
6       not consider ourselves an island, but we need to  
7       do planning regionally with our neighbors, state  
8       neighbors as well as Mexico. We also heard,  
9       however, on the importance of looking within  
10      California and the need to solve local reliability  
11      problems.

12             We heard about the need to insure that  
13      this vision demonstrates a commitment toward  
14      environmental stewardship and respect for the  
15      people affected. But, especially in San Diego, we  
16      also heard about land use constraints that  
17      basically require the use of possibly  
18      redesignation of state lands in order for any  
19      project to go forward.

20             And a couple more things. We heard  
21      about we need to compare transmission and  
22      nontransmission alternatives on a level playing  
23      field, especially with respect to timing. We all  
24      know about five years being too short to consider  
25      any transmission alternative when you're looking

1 at meeting needs. An example is Valley Rainbow  
2 and how that all turned out.

3 And, of course, we also heard again, on  
4 the 5th as well as today, the need to involve all  
5 stakeholders, environmental groups, citizens,  
6 local agencies, state agencies. Everyone needs to  
7 be involved in the development of a vision.

8 And so because of the diversity of the  
9 comments, and the diversity of the themes we said,  
10 you know, let's take a step back. We would not be  
11 in a -- we thought we might be, but we did not  
12 come up to be in a position to have a vision  
13 statement for you at this workshop. We decided to  
14 take a step back and first of all try to look for  
15 common areas of consensus on the principles that  
16 should guide a vision. And I think that's my next  
17 slide, is the principles. And then also get  
18 feedback from stakeholders on the relative  
19 importance of the themes which I just mentioned on  
20 the previous slides, as well as the principles  
21 which are coming next.

22 And so these are some of the guiding  
23 principles that I synthesized from all of the  
24 comments. Whatever vision we come up with it  
25 should be long lasting. But should also not be

1 inflexible.

2           The second thing is it should contribute  
3 toward a sustainable energy future. Third, it  
4 should create a transmission system that can  
5 handle unpredictable conditions, whether that be  
6 market or load or generation or other factors.

7           The vision should guide both long-term  
8 and short-term needs. Although some people  
9 expressed concern that it should stop short of  
10 designating certain projects, specific projects.

11           Fifth, it should be developed with  
12 consideration for neighboring states and Mexico,  
13 as well as local areas and citizens. And sixth,  
14 it should be developed as soon as possible in  
15 order to prevent the foreclosure of transmission  
16 expansion opportunities. For example, the ability  
17 to access lower cost resources to improve  
18 reliability; to access renewables; or take  
19 advantage of other strategic opportunities.

20           And so in addition to those guiding  
21 principles for the long-term vision, we also  
22 synthesized some specific short-term actions. And  
23 again we heard many of these today. The  
24 importance of initiating corridor planning, as you  
25 heard from Kristy and Eileen, as well as we've



1 heard from Pat Arons of Southern California  
2 Edison, and others.

3 We also see the need to investigate land  
4 use banking. And we're not quite sure what that  
5 means, but many parties commented on that. And if  
6 you would like to elaborate on how to go about  
7 doing that and what should be done, we'd  
8 appreciate your perspective.

9 And finally, continue our efforts to  
10 demonstrate and deploy technologies that allow the  
11 existing system to be used more efficiently like  
12 through our PIER program and the technologies it's  
13 investigating.

14 And so, next steps. As I mentioned  
15 earlier we are looking forward to receiving  
16 feedback from stakeholders on, first of all, the  
17 accuracy and completeness of my summary of the  
18 comments. And then also on my slides today, the  
19 relative importance of the themes and principles  
20 listed there.

21 And also receive feedback on these three  
22 specific short-term actions on the previous slide.  
23 And what we'd like to do then is receive all the  
24 comments back by May 24th and present the results  
25 at our next transmission workshop which is

1 scheduled for June 14th.

2 And with that I'll take any questions or  
3 we can move on to the public comment, if there are  
4 no questions specifically for me.

5 MR. KONDOLEON: Thank you, Judy. As we  
6 bring this workshop to a close I want to again ask  
7 one more time if we have any comments from the  
8 public on any of the subjects that we have  
9 discussed today.

10 Since I don't see any willing  
11 participants at this point, let me again thank  
12 everyone for attending and participating in this  
13 discussion.

14 Before I turn it over to Commissioner  
15 Geesman for his closing remarks, I want to remind  
16 everyone again that five weeks from today we'll  
17 have our fourth and final workshop in this IEPR  
18 update cycle. It's anticipated again that we will  
19 have a discussion on the development of a  
20 comparative alternatives methodology. Not only  
21 what you should include, but where in the process,  
22 what process would be best employed.

23 I'm anticipating that we will have some  
24 background information provided by one of our  
25 consultants as a starting point for initiation of

1 a dialogue at the next workshop. Again, I'm  
2 anticipating that this may take awhile for  
3 completion of a methodology that's such that we  
4 could receive a consensus view on, but we want to  
5 imitate that process at the next workshop.

6 And, again, we're looking to provide you  
7 with some background information with regard to  
8 findings from our consultant on that activity.

9 I'm also expecting that we'll have a  
10 presentation on the third and final report by the  
11 CERTS team on our investigation into the potential  
12 benefits, we're calling those strategic benefits,  
13 provided by transmission. And that presentation,  
14 again, to the degree that they report it's  
15 available in advance of the next workshop, we'll  
16 make that available on our website.

17 And then finally, as you've just heard  
18 in the last two presentations, I'm sure we will  
19 have a schedule, some time to update our progress  
20 in the development of the proposed corridor study,  
21 and also our development of the long-term  
22 transmission vision.

23 With that, let me turn it over to  
24 Commissioner Geesman for final remarks.

25 PRESIDING MEMBER GEESMAN: I just

1 briefly again wanted to thank you all for  
2 participating. We've had three very good  
3 workshops. We have a lot of work to do. And this  
4 '04 update is simply going to be an interim step.  
5 We'll do the very best we can, but I think what's  
6 most important is to engage as many of the  
7 different stakeholders and members of the public  
8 as we can.

9 I fully believe that what we're trying  
10 to do is change the culture in which state  
11 government addresses this vital resource. I think  
12 that's a long and painstaking process. But each  
13 step that we take does have a fair amount of  
14 significance to it.

15 So I invite your continued involvement.  
16 I think we've got a lot ahead of us. And I  
17 certainly look forward to the June 14th workshop.

18 We'll be adjourned.

19 (Whereupon, at 3:30 p.m., the workshop  
20 was adjourned.)

21 --o0o--  
22  
23  
24  
25

## CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter,  
do hereby certify that I am a disinterested person  
herein; that I recorded the foregoing California  
Energy Commission Committee Workshop; that it was  
thereafter transcribed into typewriting.

I further certify that I am not of  
counsel or attorney for any of the parties to said  
workshop, nor in any way interested in outcome of  
said workshop.

IN WITNESS WHEREOF, I have hereunto set  
my hand this 18th day of May, 2004.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345